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# The Uruk World System





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The Dynamics of Expansion of  
Early Mesopotamian Civilization

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The University of Chicago Press  
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# Preface

Only recently has it become possible to conduct systematic research bearing on the archaeological development and early history of areas in the northern and eastern periphery of the southern Mesopotamian alluvium. Numerous investigations are now underway in the plains of northern Syria, northern Mesopotamia, and southeastern Turkey as well as in the nearby highlands. Combined with what information was obtained from intensive research in the alluvial lowlands of Khuzestan in the 1970s, the emerging corpus of data from the north and northeast allows us for the first time to explore a number of questions of major import for the early historical development of ancient Near Eastern societies. One of those questions constitutes the focus of this study: that of the extent and magnitude of the processes of external expansion that accompanied the crystallization of Sumero-Akkadian civilization in the Mesopotamian alluvium during the Uruk period in the second half of the fourth millennium B.C.

The development of sociopolitical and economic complexity in communities in the alluvial lowlands of southern Iraq during the Uruk period has been, of course, the object of considerable recent research, and in many ways this study should be conceived as part of that ongoing effort. However, instead of examining the emergence of civilization in the alluvium from the point of view of

changes in the Mesopotamian core itself, I focus on the external manifestations and consequences of that process. These include the colonization of the neighboring Susiana plain of Khuzestan and the establishment of a variety of specialized settlements at strategic locations across the northern plains and in the surrounding highlands. These phenomena are analyzed from the perspective of models of cross-cultural interaction derived in great part from historical literature on the penetration of relatively undeveloped peripheral areas by highly organized modern European societies. In spite of obvious temporal and geographic differences involved in the transference of eurocentric conceptual frameworks to an ancient Near Eastern context, the models are relevant in that in each case interaction between societies at significantly different levels of socioeconomic development appears to have been the norm. More specifically, I explicitly assume (1) that for a variety of endogenous reasons not yet fully understood, Uruk societies of southern Iraq had achieved levels of sociopolitical organization that were significantly more advanced than those of contemporary communities on their periphery and (2) that differences in the resource endowments of the lowlands of Mesopotamia and the surrounding highlands ensured that highly stratified societies such as emerged in the alluvium during the Uruk period

could neither develop further nor maintain themselves in the long term unless they had access to a resource base significantly wider than the alluvium itself.

It could be argued with some justification that the corpus of available information from the Mesopotamian periphery bearing on the expansion of Uruk societies remains much too fragmentary, ambiguous, and incompletely published for a systematic attempt at interpretation at this time. Nevertheless, enough data have already appeared so that an initial approximation can be attempted. This study, an extensive revision of my doctoral dissertation presented to the University of Chicago in 1986, represents such a preliminary assessment. Since much

pertinent research remains unreported and even more remains undone, it is expected that significant modifications to the construction presented here will become necessary as new data are made available from ongoing research projects in northern Syria, northern Iraq, and southeastern Turkey and by the publication of final results of previous work in southwestern Iran. In the meantime, it is hoped that this assessment will help bring into sharper focus problems still remaining in our understanding of the processes of expansion outward that formed an integral part of the emergence of city-states in the alluvial lowlands of southern Iraq during the Uruk period.

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## Introduction

*Archaeologists have become increasingly critical of neo-evolutionary formulations for the development of complex society that stress internal . . . factors to the exclusion or near exclusion of interaction and exchange among disparate societies at different levels of cultural development. . . . The basic fact remains that the . . . cultural evolution of any society is dependent upon relations with other societies; that cultures are open, not closed, systems; and that studies . . . that fail to consider broader patterns of interaction are necessarily incomplete and partial. —P. L. Kohl, "The Use and Abuse of World Systems Theory"*

### A SUPRAREGIONAL PERSPECTIVE

The marked geographic, environmental, economic, and cultural contrasts between the alluvial lowlands of southern Mesopotamia and the high plains and highlands of its periphery imposed a number of enduring constraints on the development of societies in each of those areas. One crucial constraint was that in the Mesopotamian alluvium, a land devoid of most resources other than the basic ones provided by agriculture and animal husbandry, a substantial proportion of the material requirements needed to sustain highly stratified social systems had to be imported (Oppenheim 1976). The needed resources were largely to be found in distant highland areas whose communities, to judge from existing historical and archaeological evidence, were characterized by significantly lower levels of socio-political and economic integration than those of city-states in the Iraqi alluvium, at least before the third millennium B.C. What, then, is the proper framework for the study of societies in these contrastive areas and, more specifically, for understanding the genesis of Sumerian civilization in southern Mesopotamia during the second half of the fourth millennium B.C.?

Recent approaches to this question have explored the role of sources of disequilibrium within

communities in the alluvium as causative in the evolutionary processes that culminated in the rise of Uruk city-states. Individual studies have focused on the growth of urban polities (Adams 1981; Adams and Nissen 1972), the emergence of complex hierarchical administrative structures (Johnson 1973, 1987; Wright and Johnson 1975), the accretion of social stratification and political differentiation (Zagarell 1986), the transition from reciprocal to redistributive economies (Polanyi 1957), and, finally, the impact of specific "prime movers," such as agricultural intensification and population growth (Smith and Young 1972), warfare (Wright et al. 1975), or the development of intraregional trade (Johnson 1973; H. T. Wright 1972; Wright and Johnson 1975).

Important as each of these various factors must have been, the complex modifications and innovations in internal social, political, and economic organization resulting in the initial elaboration of Mesopotamian civilization surely did not occur in a vacuum. Rather, the processes leading to the emergence of city-states in the alluvium could have only taken place against a much wider background, one in which cross-cultural contacts and interregional exchange occupied a prominent position. This is underscored by later documentation from Mesopotamia itself. From at least the third millennium on-

ward, a diverse corpus of historical evidence allows us to trace the changing roles of exchange and coercion, as well as public institutions, both secular and religious, and private entrepreneurs in the procurement of the required resources (Larsen 1987).<sup>1</sup> The relative importance of each of these factors varied considerably from period to period. In spite of the considerable differences in the types of goods exchanged and the changing nature of resource procurement strategies through time, however, one thing remained constant: the maintenance over the long run of complex political organizations in the Mesopotamian alluvium is incomprehensible outside the framework of a broader universe, a wider system of economic and, on occasion, political relationships between it and areas with complementary resources and societies at significantly different levels of socioeconomic integration.

The only proper framework for the study of the phenomena connected with the rise of Mesopotamian civilization, then, is one that takes into account the likelihood that sources of disequilibrium external to the alluvial system of southern Iraq were as influential in explaining the development of the particular political economy of civilization there as the internal sources illuminated by recent research. In a sense, the processes generated by those internal variables may be seen as a sort of "head start" that allowed successive societies in the south to respond actively and creatively to the conditions of disequilibrium imposed on them by the physiographic and cultural framework in which they were embedded.

One such response that has until now not received the attention it deserves was the development of long-distance exchange and cross-cultural contacts between Uruk societies in southern Mesopotamia and surrounding communities of the periphery in an attempt to secure and regularize the flow of desired resources (but see now Marfoe 1987 and Zagarell 1986). This relative lack of attention is puzzling, since long-distance exchange and state formation have been repeatedly shown to be intricately connected, whether directly through state control of the trade itself or indirectly through state

control of the commodities to be exchanged and of the means (labor) for their production (Adams 1974; Alagao 1970; Eisenstadt 1979; Terray 1974). Moreover, in the Mesopotamian case this insufficient consideration is problematic, since evidence for close contacts between societies in the southern alluvium and communities in the plains of northern Mesopotamia predating the emergence of Uruk city-states by a millennium or so has been available for almost half a century (Tobler 1950), and more recent research has consistently supported the validity of the earlier data on this point (e.g., Akkermans 1989; Breniquet 1989; J. Oates 1983).

#### RESOURCE PROCUREMENT STRATEGIES AND THEIR IMPACT

Although contacts between societies in the Mesopotamian alluvium and communities in the surrounding areas had existed in one form or another since prehistoric times, their intensity varied considerably through the ages. Historically, however, some factors recurred. Periods of internal coherence and centralization in the alluvium were commonly preceded by an increase in resource procurement activities and were generally followed by more or less successful processes of expansion that can be interpreted as attempts to control the critical routes of trade through which flowed needed resources.

A particularly clear and well-documented example of this phenomenon is that of the Akkadian period in the second half of the third millennium, when the sporadic raids and trade expeditions of late Early Dynastic kings were institutionalized by diverse means. These included (1) the establishment of a network of strategically located enclaves and garrisons at focal nodes along the lines of communication and transportation crisscrossing the northern Mesopotamian plains (Brak, Mari, Nuzi); (2) the extension of direct political control into the neighboring Susiana plain of Khuzestan (Susa) and the Upper Tigris area (Nineveh, Assur); (3) the intensification and regularization of trade contacts with an ever-widening circle of peripheral commu-

nities ranging from the Persian Gulf coast and beyond (Magan, Meluhha, Dilmun) to the Taurus/Anti-Taurus highlands (Silver Mountain, Purushkhanda) and still further to the coastal upland ranges of Lebanon and Syria (Cedar Forest); and (4) periodic military expeditions and raids directed against local polities not amenable to trade, such as Ebla, Armanum, Subartu, Lullubu, and Simurru (Hirsch 1963; Larsen 1979; Foster 1977; Maeda 1984). The close correlation between sociopolitical centralization in the alluvium and expansion outward has been noted by Larsen (1979:97), who suggests that the recurrent imperial phases in Mesopotamian history may be seen simply as episodes when societies in the Mesopotamian alluvium took an especially active role in ensuring a reliable flow of resources.

The reasons why a flow of resources had to be maintained in all periods and sometimes ensured by force in specific periods are explained by contrasts in the natural resources available in the Mesopotamian alluvium and those obtainable in its periphery, as well as by differences in the sociopolitical and economic structures of societies at either end of the geographical spectrum. These differences are illuminated by diverse documentary sources dated to the third and second millennia which suggest that, for most periods, contacts between the two groups of communities were based on the flow of raw materials and, occasionally, dependent labor (slaves and prisoners of war) from the highlands to the lowlands. These peripheral resources were obtained through tribute or plunder or in return for labor-intensive processed and semiprocessed goods from the alluvium (Leemans 1960; Larsen 1987; Yoffee 1981).

If modern historical and sociological studies on development and underdevelopment may be used as a guide, conditions of asymmetrical exchange such as described would result in two parallel and closely related long-term processes: In the alluvium, the onset of contacts would have strengthened the economic, social, and political base of the communities involved. In the periphery, however, it should be expected that after an initial period of vigorous

growth, a significant weakening of the socioeconomic structures of local communities would occur. The dichotomy in the impact of contacts on alluvial and peripheral societies is explained by the "spin-off" effects of the contacts on the polities involved. In the periphery, no positive spinoffs could come from having to pay tribute, having a portion of the able-bodied population deported as prisoners of war, or being plundered. Economic contacts, however, were another matter altogether. Initially at least, the onset of exchange would have represented a powerful stimulus for the emergence of more complex sociopolitical structures, particularly if the indigenous societies affected were themselves on the threshold of a social evolutionary process fueled by internal pressures.

A number of studies provide clues as to these processes. It is often the case that native elites controlling either the actual resources being exploited or access to those resources take advantage of their natural role as organizers of the means of production and (at times) mediators of the exchange to consolidate and extend their power, both in the context of their own societies and vis-à-vis their local rivals (Paynter 1981). Moreover, the destabilizing effects of exchange often lead to the further delineation of preexisting tendencies toward class differentiation within indigenous societies as a consequence of occupational specialization, whether voluntary or coerced. In many instances, the onset of contacts leads to the consolidation of elite control over labor supplies and the emergence of a class of fully or semicoerced individuals involved directly on a seasonal or permanent basis in both the extraction of resources required for the exchange and the provision of the minimal security that is a precondition for it (Terry 1974). Another common result is the growth of a specialized class, usually organized along kin lines, whose role is to act as mediators and brokers of the exchange (Daaku 1970). To summarize, in the short run, the onset of asymmetrical exchange relationships with the more advanced polities of the Mesopotamian alluvium would have unleashed substantial pressures within peripheral societies leading toward a new social or-

der, one allowing for improved storage and distribution facilities, for exponentially more complex administrative structures, and for the ritual displays needed to validate the changes taking place in the realm of social relationships (Adams 1974).

However, the initial phase of vigorous growth in peripheral communities could not last long, since, in contrast to the sociopolitical effects just enumerated, the economic spinoffs of the exchange would have been relatively negligible: the trade itself did not involve the creation of any significant new means of production, but rather the extraction of finite unprocessed resources. A further consequence of this would be the loss of flexibility and viability of the economy of peripheral communities as those societies became increasingly overspecialized in the procurement of only a limited number of specific goods for export. In so doing, their economies would become increasingly vulnerable as they grew more and more dependent on a single market (Galtung 1971).<sup>2</sup> In the long run, then, the onset of contacts with more highly integrated polities in the alluvium would have resulted in two diametrically opposed processes within peripheral communities: sociopolitical structures already in place would be consolidated and strengthened and, at the very same time, the economic base needed to sustain those increasingly complex and differentiated structures would be weakened and made progressively more susceptible to eventual collapse.

In contrast, in the alluvium all of the social, political, and economic spinoffs would have been positive. Benefits to societies at the receiving end of tribute and plunder are immediately obvious, since those resources strengthen the power base of military elites in direct proportion to the weakening of the forces arrayed against them. Benefits from economic contacts, however, although similar to those already discussed for peripheral societies, would be even more far-reaching and pervasive. This is explained by the prevailing pattern of trade, which, as will be recalled, was largely based on the exchange of wholly or partially manufactured goods from the alluvium for unprocessed raw materials from the

periphery. As noted by the economist Jane Jacobs (1969), asymmetrical export-driven economies such as described have important "multiplier effects" on the societies practicing them. One such effect would have been increased employment and economic expansion at the core as imports were processed and distributed and as local production for export was diversified and intensified. Jacobs's point is particularly pertinent to the Mesopotamian case, since many of the resources traditionally imported into the alluvium, such as timber, metal ores, various exotic, semiprecious, and utilitarian stones, and bitumen, required a significant degree of processing before they could be converted into usable form and incorporated into the economy (below, chap. 4). Exports, in turn, whether destined for distribution within the alluvium or for faraway markets, were labor-intensive and consisted principally of surplus grain, leather products, dried fish, dates, and textiles (Crawford 1973). The production of an exportable agricultural surplus, for example, involved the employment of armies of laborers and contingents of supervisors in order to create, maintain, and operate the necessary irrigation networks; and to harvest the grain, winnow it, store it, and finally, bale it for shipment. Similarly, the production of dried fish, dates, and leather products also required considerable manpower resources: fish have to be caught, salted, and packaged; date palms have to be pollinated and dates gathered and packaged; sheep and goats must be fed, herded, sheared, killed, and their skins have to be cut, tanned, and otherwise processed. Moreover, the production of other processed goods for export demanded an even greater investment in manpower and time. A case in point was the production of textiles, the industrial scope of which is underscored in third and early second millennium economic texts. Each major city-state had a palace-organized weaving establishment where thousands of dependent women (and, on occasion, their children) labored to process wool into finished fabrics and garments (Jacobsen 1953; Maekawa 1980; Waetzoldt 1972). The amount of time and effort spent in the produc-



tion of these fabrics earmarked for foreign markets was astonishingly high. According to Larsen (1987), simple fabrics took almost a month to complete, while particularly elaborate pieces took, on occasion, well over three years.

In the Mesopotamian case, however, a further and equally important multiplier effect existed. The various activities connected with export production required scores of bureaucrats to record, store, and redistribute the output, and also to supervise the housing of laborers and the distribution of subsistence rations. Once in place, the pressures for such a bureaucratic apparatus to become self-perpetuating would have been overwhelming, since exclusive access to the imported resources and luxury goods acquired in exchange for the products manufactured by the encumbered laborers would surely be invested with significant social, political, and religious meaning and used to secure the hegemony of the bureaucratic and administrative elites (Terry 1974). A reliable flow of resources had to be ensured at all costs, then, since interruptions would have resulted in politically unacceptable socioeconomic dislocations: the reproduction and growth of the social order was predicated on the production of the exportable surpluses that, short of war, assured access to resources not available in the Mesopotamian lowlands. It is therefore clear why expansion phases occurred only at particular junctures in Mesopotamian history—in those periods when a growing economy required the taking of active and expensive steps for its maintenance.

It hardly needs to be stressed that the sort of economic spinoffs just described for the alluvial core would have been absent in the periphery. While admittedly, the extraction of specific raw materials may require potentially significant manpower expenditures, the end result of that exploitation is not further down-the-line processing employment and administrative complexity, but rather a hole in the ground or a hillside barren of trees. In brief, the asymmetrical nature of the exchange between the less developed peripheral societies and the more highly integrated communities of

the alluvium would have, over time, tended to perpetuate and magnify preexisting differences between societies at opposite ends of the exchange spectrum (Galtung 1971).

#### “MOMENTUM TOWARD EMPIRE” IN THE URUK PERIOD

But when exactly did an interaction system based on the ability of highly integrated societies in the Mesopotamian alluvium to mobilize and accumulate resources drawn from a far-flung periphery first develop, and moreover, how far back into Mesopotamian history can the closely associated phenomenon of recurrent imperial phases be traced?

These questions can now be addressed by reference to a growing corpus of new and reinterpreted evidence for the archaeological history of several areas on the periphery of the Mesopotamian alluvium. In the last two decades or so, archaeological research has begun to focus systematically both on the fertile alluvial plains of southwestern Iran directly east of the Mesopotamian alluvium and in the high plains of northern Mesopotamia, northern Syria, and southeastern Anatolia (hereafter Syro-Mesopotamia) directly north and northwest. Although many excavations and surveys (in the northern plains) are still in progress and much of the relevant material remains unpublished or only incompletely published, a considerably clearer picture of the archaeological development of significant sections of the Fertile Crescent outside of the Mesopotamian alluvium is beginning to emerge. For the later fourth millennium, these data have contributed to a more precise realization of the nature, intensity, and variety of contacts between polities in the Mesopotamian alluvium and communities in its periphery.

This emerging corpus of data will be the object of detailed discussions in following chapters. However, my conclusions may be anticipated by my suggesting that the data show a complex, albeit loosely integrated, supraregional interaction system similar to that described above for the Akkadian period already in place by Uruk times, almost a mil-

lennium earlier. The existence of this system can be shown directly by tracing the settlement patterns of Uruk sites outside of the Mesopotamian alluvium and the presence of typical Uruk artifacts in indigenous peripheral sites. Indirectly, its existence can be inferred from the demonstrable impact that contacts with Uruk societies had on communities in the periphery. This impact may be understood in the context of historical and ethnographic studies noted above.

The full significance of data bearing on contacts between Uruk societies of southern Iraq and Khuzestan and communities in the high plains of Syro-Mesopotamia and the highlands of Iran and Anatolia cannot be properly assessed unless the evidence from those disparate regions is looked at as a whole. Only then can a coherent pattern be discerned: by the second half of the fourth millennium, societies of the Mesopotamian alluvium were already in the midst of an intense process of expansion that took diverse forms and affected a number of areas differently. This process may be considered to represent the earliest well-attested example of the cyclical "momentum toward empire" that was to become a recurrent phenomenon throughout millennia of Mesopotamian history (Gibson 1974; Larsen 1979).

#### A CONCEPTUAL FRAMEWORK FOR THE ANALYSIS OF THE EVIDENCE

It is probably safe to say that archaeologists and historians have largely failed to recognize the beginnings of this cyclical "momentum toward empire" in the fourth millennium B.C. Rather, most scholars have tended to characterize the formative period of Mesopotamian civilization in terms of a progression toward increasingly centralized and complex social and political systems. This progression is seen as reaching its peak only by the second half of the third millennium with the emergence of the Akkadian empire, which is conceptualized as the first successful instance of a well-defined nexus of formal relationships of economic and political dependency encompassing a number of distinct geo-

graphic, ecological, cultural, and ethnic boundaries (Larsen 1979; Jacobsen 1957).

That the growing corpus of data bearing on the impact of Uruk societies on surrounding communities is not readily taken as evidence for a system of relationships of dependency and domination on an imperial scale comparable to that of the Akkadian period can be explained by a number of factors. First, empires and supraregional interaction systems are as diverse as the kaleidoscope of historical and geographic circumstances within which they develop. As a result, no real agreement on a definition of such phenomena has gained common currency among historians and sociologists, much less among scholars investigating the origins and development of Near Eastern civilizations. Second, scholars in the field have tended to focus primarily on processes in the cores, for which some amount of historical documentation is usually available, and have paid scant attention to processes in the periphery, often poorly documented if documented at all (Adams 1984:81). In addition, and partly as a result of this bias, those definitions that have been applied to ancient Near Eastern data have tended to overemphasize the formal aspects of territorial and political dominion over previously independent polities as the key characteristic of imperial relationships. The purely economic aspects of cross-cultural relationships of dependency and dominance are either not treated or are dealt with as important but nevertheless secondary manifestations of what is primarily conceived of as a political process.

What is needed in order to make sense out of the mass of seemingly disparate data connected with the impact of the Uruk expansion into the periphery is an interpretive scheme that is as broad as the data themselves and as flexible as they are varied. A flexible enough framework that falls well within the parameters of the supraregional perspective put forward in the preceding section is that of scholars who study issues of development and underdevelopment in the modern world (e.g., Amin 1976; Baran 1957; Emmanuel 1972; Frank 1967).

While their positions vary considerably in emphasis and methodology, their work shares a common theme: given a system of cross-cultural interdependency—as surely was required in light of the constraints, noted above, involved in the Mesopotamian case—understanding the transformations occurring in any particular subset is impossible unless related changes taking place in the other interdependent subsets are taken into account as well. These researchers have thus adopted what may be characterized as a global approach to historical change that is of considerable heuristic value to the study of the processes connected with the emergence and maintenance of civilization in the Mesopotamian alluvium. Transferring the Marxist notion of social totality (whereby all elements within a single social system exist in a matrix of mutual determinations) to a broader cross-cultural canvas (Aronowitz 1981:505), these scholars contend that social systems and their transformations must be analyzed within the context of a dynamic structure of asymmetrical relationships of interdependency, principally (but not solely) economic in nature, that in many cases originate outside of any particular region or any specific group.

Typical of this perspective is the work of the sociologist Immanuel Wallerstein (1974), who explores the widespread transformations resulting from the emergence of capitalism in Europe and the closely related phenomenon of European colonial expansion. He argues that by the late fifteenth and early sixteenth centuries A.D. the growth of capitalism in Europe had given rise to a new and enduring form of cross-cultural interaction encompassing several distinct modes of production and political formations, which he termed a “world system” or “world economy”:

It is a “world” system not because it encompasses the whole world, but because it is larger than any political unit. And it is a “world economy” because the basic linkage between the parts of the system is economic, although this was reinforced to some extent by cultural links, and eventually . . . by political arrangements.” (Wallerstein 1974:15).

According to Wallerstein, this interaction system was based on a hierarchically organized division of labor that allowed a small number of politically centralized northern European core groups, often in fierce competition, to expand well beyond the boundaries of Europe and to accumulate resources drawn from a vast periphery, principally portions of the New World, Africa, Asia, and Eastern Europe. Depending on local circumstances, these peripheral areas were characterized either by weak, partially dependent, local governments or by outright colonial domination. The bond that held the various elements of the hierarchy together at any given time was economic interdependency. Cores exported manufactures to the periphery, while the latter supplied core groups with agricultural staples, bullion, and other required raw materials, whether extracted directly by coercive means, by way of tribute or taxation, or indirectly by the inherently asymmetrical nature of the exchange between the two groups.

Wallerstein’s work has been reviewed extensively from widely varying methodological and theoretical viewpoints. From the perspective of those interested in reconstructing cross-cultural interaction systems that developed well before the modern age, a number of crucial points emerge from these reviews. Perhaps the most important is that Wallerstein does not recognize that the processes of asymmetrical exchange and cross-cultural interdependence that he documents for areas of the Third World transformed by modern European imperialism apply also to earlier periods and non-Western peoples (Chase-Dunn and Hall 1991; Kohl 1979; Schneider 1977). This failing is traceable to his rigid conceptualization of both ancient trade and ancient empires.

Concerning trade, Wallerstein (1974:20–21) establishes a dichotomy between what to him is largely immaterial ancient exchange based principally in “preciosities” and what he considers to have been profoundly destabilizing modern trade founded on bulk staples, bullion, and other essentials. However, this dichotomy is both false and irrelevant. It is false because, initially at least, the

economic impetus for the early European voyages of discovery was not provided by demand for staples, but by the appetite of increasingly affluent European elites for exotic commodities, such as spices, sugar, and precious metals (Scammell 1989:53). And while some of these commodities (e.g., sugar) were eventually transformed into staples (Mintz 1985), that transformation was itself a consequence of the expansion. Moreover, early exchange was by no means limited to what Wallerstein would categorize as *preciosities*. In the case of ancient Mesopotamian civilization, for instance, evidence derived from archaeological and textual sources indicates that imports historically consisted not only of “luxuries” for elite consumption, but also of commodities such as copper and wood that must by all accounts be considered essential to the maintenance of complex social organizations in the resource-impoveryed alluvial environment of southern Iraq (below, chap. 4).

At a more basic level, however, Wallerstein’s dichotomy is irrelevant because the substantial impact of external exchange on the social evolution of core and peripheral societies can be shown to obtain even if the trade is largely founded on the exchange of luxury commodities. This was noted by Jane Schneider (1977), who suggests that by helping cement patron-client relationships within a single kin group and by contributing to the creation of alliances between diverse social groups, ancient trade in prestige items had a crucial role in the formation and consolidation of social inequalities. More specifically, in the context of core-periphery relationships, the export of core-manufactured prestige goods is often directly related to attempts by the core to expand its territorial or economic control in specific portions of the periphery by winning and maintaining the loyalty of subordinate local lineages (Friedman and Rowlands 1977). Conversely, in the periphery, political advantage gained through monopoly control of status-validating imports is commonly instrumental in the establishment, maintenance, and reproduction of state-level power relationships (Ekholm 1977; Frankenstein and Rowlands 1978). The Abron kingdom of Gyaman,

northeast of Ivory Coast, in Africa, is an instructive case. Using available historic data, Terray (1974) was able to show that the growth of the Abron state in the eighteenth century A.D. was intimately connected to long-distance trade in prestige items—not directly by means of control of the exchange itself, but indirectly by means of the elites’ acquisition of slaves and captives for the specific purpose of producing an exportable surplus to be exchanged for the luxury goods they required.

A second and possibly more important reason why Wallerstein does not grasp the validity of his model of social change for periods significantly preceding the emergence of capital imperialism is his view of ancient empires as essentially homeostatic institutions” in which,” he contends, “there is a single political system over most of the area, however attenuated the degree of its effective control” (Wallerstein 1974:84–85). Given this definition, Wallerstein differentiates between modern “world systems” and earlier “world empires” by suggesting that while in the latter the boundaries of political and economic hegemony are coterminous, in the former the extent of economic hegemony far out-reaches that of political control. But here again Wallerstein’s definitions are unnecessarily restrictive. A close look at some ancient empires leaves no doubt that in many cases the extent of their economic hegemony far outreached the boundaries of their political control. An extreme but by no means unique example is the “trading post empire” of Carthage in the Western Mediterranean prior to the third century B.C. Controlling little in the way of territory, the seafaring Carthaginians managed to exert an overwhelming influence in the economic life of the Western Mediterranean world by means of a number of strategically located enclaves and a network of alliances with otherwise independent local rulers (Whittaker 1978).

There is, however, an alternative to Wallerstein’s approach that also falls well within the intellectual framework of studies of development and underdevelopment, avoiding some of the pitfalls of his scheme and retaining its strengths. I am referring to the work of a number of historians who have

challenged explicitly and in a systematic manner the traditional views of empires as systems of primarily political relationships and of imperialism as a product of processes at work only within the imperial cores. In so doing, these scholars have adopted a broad perspective of empires and imperial phenomena that is particularly suited to the analysis of the fragmentary evidence available on the impact on the periphery of the southern Mesopotamian expansion during the Uruk period, since, as will become apparent later in the discussions, that evidence is derived almost entirely from peripheral sites and reflects contacts that are primarily economic in nature.

The view of an empire as a nexus of primarily political relationships (which mars Wallerstein's analysis and which appears to be prevalent among many orientalists) was called into question by the publication some forty years ago of a controversial review of British imperialism in the nineteenth century written by Jack Gallagher and Ronald Robinson (1953). They dispute the basic tenet of the more traditional interpretations of the nature of empires and imperial phenomena by contending that those interpretations neglect a whole range of informal, but nevertheless equally influential, types of domination that usually precede, commonly accompany, and on occasion even substitute entirely for more formal political ties. In their view, it is dependency that is at the root of imperial relationships. The actual form that those relationships of dependency take, whether political or economic, is of secondary importance. Formal political rule and territorial dominion are seen only as the most specific and easily defined mode of imperialistic dependency, but by far not the only one, nor even the most common. Furthermore, they argue that formal political ties need not develop in all cases and when those ties do develop it is usually only after a process of "informal" economic penetration that is in effect also a mode of imperialistic domination.

For Gallagher and Robinson, then, the refusal or failure to use formal methods of control, that is to say, political annexation, has no bearing on the ability of one society to control another. For them,

it is economic dominance that is the irreducible common denominator of imperial systems. The defining characteristic shared by all imperial systems at their onset is the integration of new regions into an expanding economy. Depending on specific local circumstances, some systems may never develop beyond this initial stage, while others may go on to develop more formal political ties. However, these juxtaposed "formal" and "informal" modes of domination are not necessarily mutually exclusive stages in a linear evolutionary process, but represent instead complementary aspects of a continuum.

In a later publication, Gallagher and Robinson (1961) went on to challenge explicitly what they perceived to be another of the failings of the more traditional interpretations of imperialism. In their view, theories that attempt to understand relationships of dependency only on the basis of social, political, or economic developments in the core are ignoring a whole range of equally vital factors at work in the periphery (Robinson 1976). In particular, the authors noted that the onset of relationships of economic dependency (i.e., informal empire) will in the long run result in one of two mutually exclusive responses in the periphery: most frequently, the collapse of the preexisting political order requiring the imperial power to step in formally to fill the power vacuum or else to abandon the area altogether; less frequently, the strengthening of indigenous sociopolitical structures until local communities become expansive in their own right.

The conceptual underpinnings of Wallerstein's work, with modifications as noted above, and the broader view of imperial systems propounded by Gallagher and Robinson have an important bearing on the interpretation of emerging data on the dynamics of expansion of Uruk societies. From the perspective of the core, those dynamics may be profitably visualized within a framework of cross-cultural interdependency, largely economic in nature, and competition between rival polities. From the perspective of the periphery, however, the expansion of Uruk societies can be conceptualized in terms of a continuum from more formal to more in-

formal modes of imperial domination. External contacts in the Uruk period followed a number of different approaches that were conditioned by varying geography, ecology, and previous settlement history. A more formal mode involving an actual process of colonization is evinced in nearby areas, such as southwestern Iran, where indigenous settlement was in decline and where, as in the Mesopotamian alluvium itself, irrigation agriculture was practicable. However, in more distant areas where the economic subsistence base was different from that of the alluvium and where native settlement was not in decline, such as the plains of Syro-Mesopotamia, Uruk settlements appear only at strategic locations, principally at the juncture of the most important overland routes and waterways. The policy that can be inferred is one of "informal" economic control.

The evidence for these complementary contact strategies will now be discussed in detail. Chapter 2 will explore the context and nature of Uruk settlement in southwestern Iran, and chapters 3 to 6 are devoted to the different strategies and consequences of contacts between Uruk societies and indigenous communities in the plains of northern Mesopo-

tamia, northern Syria, and southeastern Anatolia. In particular, chapter 3 examines the character of southern Mesopotamian settlements in the north, the strategic rationale that underlies their locational pattern, and their chronology, and chapter 4 focuses on their function. Chapter 5 presents available evidence for the nature of indigenous societies in the periphery and explores how preexisting conditions helped shape the strategies of Uruk contacts with those societies. Chapter 6 goes on to review the range of archaeological evidence from peripheral sites attesting to possible changes in the social texture of local communities unleashed by the intrusion of southern Mesopotamian elements into the area. The concluding chapter looks at the evidence from the eastern and northern periphery as a whole in terms of the conceptual framework put forward here and explores what the data mean in terms of our understanding of the earliest development of southern Mesopotamian civilization. Individual subsections briefly examine remaining problems in our comprehension of processes relating to the Uruk expansion and offer some suggestions for further research.

## Uruk Sites in the Susiana Plain of Khuzestan

Recent research has made the archaeological history of the various plains of southwestern Iran one of the best understood in the ancient Near East. The pioneering framework of Le Breton (1957) for Susiana, historically the most important of those plains, has now been amplified and clarified by new excavations at the important centers of Susa (Le Brun 1971, 1978a) and Chogha Mish (Delougaz and Kantor, n.d.), by excavations at various smaller nearby sites (Johnson 1976; Wright et al. 1980), and by numerous surveys (Adams 1962; Alden 1987; Johnson 1973, 1987). Moreover, a variety of complementary research also exists for the surrounding plains (H. T. Wright 1979, 1981a, 1987). This evidence leaves no doubt that throughout the second half of the fourth millennium B.C., in the Uruk period, communities in southwestern Iran developed in ways that were increasingly analogous to those of the alluvial lowlands of southern Iraq, the Sumerian heartland. This convergence represented a sharp reversal of a millennia-old trend toward increasing regional differentiation in the cultural assemblages of the two areas and, I would argue, indicates an outright process of colonization of the plains of Khuzestan by settlers from the Mesopotamian alluvium. To some degree, this process may be conceptualized within the framework

of the more formal modes of imperial relationships discussed in the preceding chapter.

### GEOGRAPHICAL FRAMEWORK

Hemmed in between the Zagros highlands to the east and the Tigris-Euphrates lowlands to the west are the closely connected plains of southwestern Iran, from west to east: Deh Luran, Susiana, Ram Hormuz, Behbahan, and Zuhreh. The largest and most fertile of these is the Susiana plain. It represents an extension eastward, at a slightly higher elevation, of the alluvial plains of southern Mesopotamia (fig. 1). More specifically, Susiana is formed by alluvial deposits from the Karun, Karkheh, and Dez rivers, which collectively drain the Luristan highlands to the north and much of the south-central Zagros to the east. The plain receives varying amounts of rainfall, with precipitation increasing as the Zagros piedmont is approached and decreasing toward the southwest in the direction of the Tigris-Euphrates basin and the Persian Gulf. Historically, settlement in Susiana concentrated in the area north of the Haft Tepe ridge, which is closest to the Zagros and is also the best watered. Here, average annual precipitation is in the 250–400 millimeter range, and successful rainfed agriculture is the norm in all but the driest years (Fischer 1968;

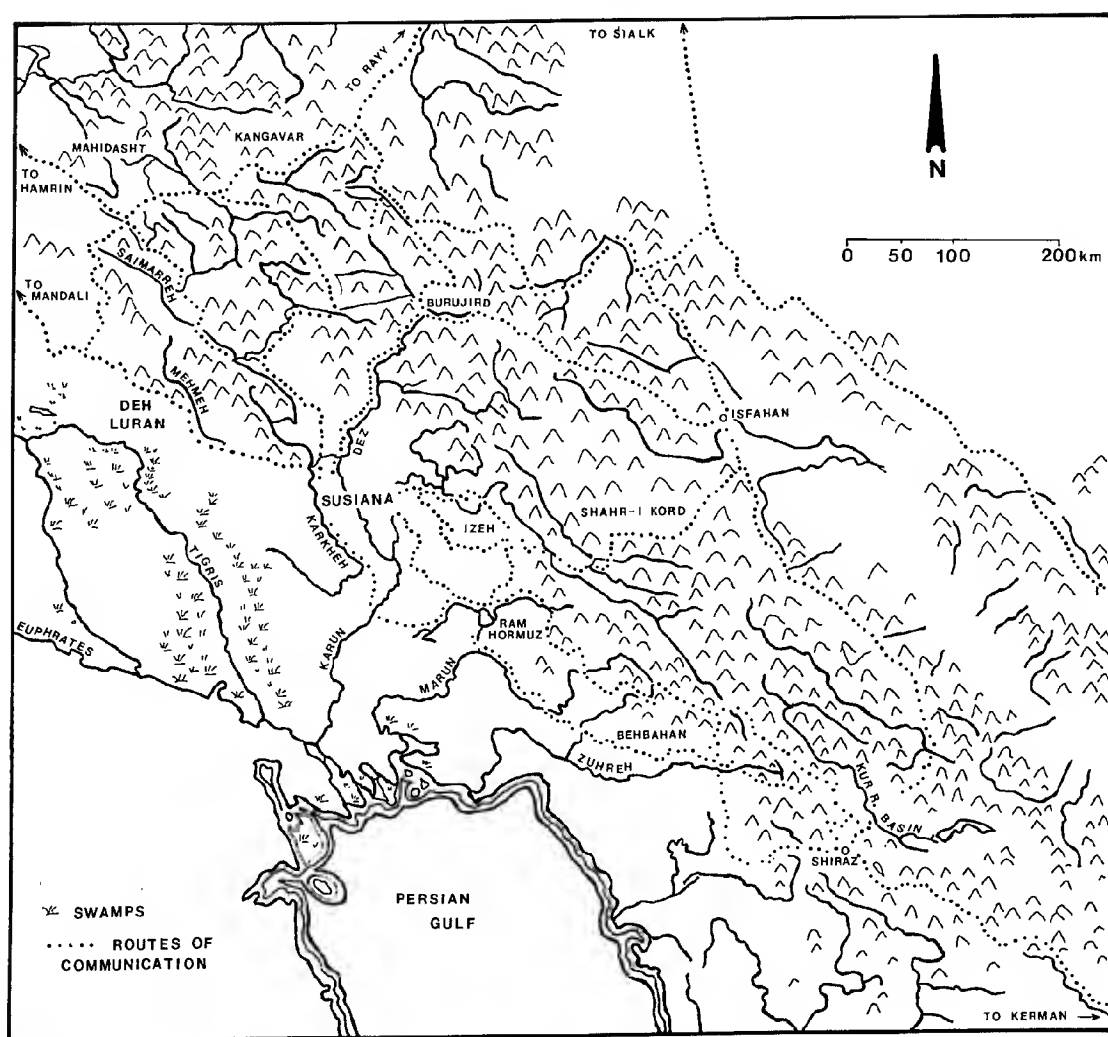


Fig. 1. Southwestern Iran: principal plains, rivers, and routes of communication.

Kirkby 1977). Moreover, until relatively recent times, aggradation rather than incision was the principal feature of river regimes in southwestern Iran, so that both winter and summer irrigation would have been possible across Susiana with minimal effort in the past (Kirkby 1977).

Although bounded to the north and east by successive folds of the Zagros Mountains, access between the Susiana lowlands and the central plateau of Iran is possible via an array of routes that cut across high intermontane plains in the Zagros and

mountain passes farther inland (fig. 1). Routes along the Ram Hormuz and Behbahan plains lead southeast and eventually emerge in the Kur River basin of Fars (Hansman 1972; Stein 1940). To the east, routes traversing the Izeh (Malamir) plain and the Bakhtiari Mountains permit passage onto the environs of Isfahan and ultimately into the mineral-rich region in the vicinity of Qum and the Dasht-i Kavir, the Great Salt Desert (Zagarell 1982). Communication northward is made possible by tracks up the various tributaries of the Dez and Karkheh riv-



ers which cross the mountain ranges of Luristan and come out in the Hamadan plain. Susiana is separated from the Mesopotamian alluvium to the west by seasonal and highly variable marshes and lagoons into which the Karkheh River drains and by a series of barren sandstone and gypsum hills with few permanent sources of water (Goff 1971; Stein 1940). Nevertheless, contacts between the two areas were relatively easy, a factor that may account for the close cultural connections that may be discerned between them in some periods. Historically, the most important land route connecting the two regions keeps to the north of the Karkheh marshes and crosses the Deh Luran plain diagonally before skirting the western flank of the Kabir Kuh range and emerging in the Diyala River basin (H. T. Wright 1981a:264).

#### MESOPOTAMIAN COLONIZATION

The Susiana plain constituted the core of Uruk settlement in southwestern Iran. While Uruk sites are also found in the neighboring plains, by and large settlement in those plains appears to have fluctuated in direct proportion, and possibly in response, to developments in the more central Susiana region (Wright 1987), which is therefore the focus of the discussions that follow.

The results of the various surveys and excavations in Susiana show that by the later part of the Uruk sequence (Middle/Late Uruk in local terminology) the plain had become part and parcel of the Mesopotamian world, an extension eastward of the culture and institutions prevalent in the lowlands of southern Iraq. The surveys of Wright and Johnson, in particular, document with precision the pattern of Uruk settlement in Susiana at this time: in the Middle Uruk period the principal centers were Susa and Chogha Mish on opposite ends of the plain. The former is situated on the Shaur River, a small tributary of the Dez, and at some 25 hectares commanded the western portion of the plain. Chogha Mish was also positioned along a tributary of the Dez, the Shureh River. At 18 hectares, Chogha Mish was only slightly smaller than Susa

and dominated the eastern portion of the Susiana plain (Johnson 1973, 1987). Surrounding these central occupations and scattered across the plain were numerous subsidiary sites and villages (fig. 2). By the final phase of the Uruk period, however, important changes had taken place. Overall regional settlement density declined as many villages were abandoned along a 15-kilometer-wide band of territory roughly equidistant to each of the two principal centers, resulting in sharply polarized settlement clusters at either end of the Susiana plain. Johnson (1987) interprets these changes as reflecting the onset of intraregional conflict in Susiana. The size of Susa may have declined at this time, but this is unclear.<sup>1</sup> Just before the very end of this phase, however, Chogha Mish was either abandoned or contracted significantly (Dittmann 1986a:344).<sup>2</sup>

In spite of the settlement pattern changes just noted between the Middle and Late Uruk phases, there is little change in the size range attested for Uruk sites across Susiana. Included in each phase are numerous small agricultural villages 1–2 hectares in size, larger villages averaging 5–7 hectares, small “towns” in the 10–12 hectare range, and the small urban centers of Susa and Chogha Mish (Johnson 1973). The material culture of these sites is homogeneous throughout the plain. Excavations at both the largest centers and smaller sites in their vicinity indicate that the artifactual assemblages of Middle/Late Uruk sites across Susiana and contemporary sites in the Mesopotamian alluvium are analogous (Amiet 1986), allowing us to equate the Susa Acropolis I (Levels [20?]19–17) and Chogha Mish (Protoliterate B) sequences in Susiana with the Eanna VI–IV (Warka) and Inanna XX–XV (Nippur) sequences of southern Iraq (Strommenger 1980b:486).<sup>3</sup> Parallels between the two areas are not limited to ceramic assemblages that are largely identical (e.g., fig. 3A–H)—although a few types in southwestern Iran do betray contacts with the nearby highlands—but include conspicuous similarities in glyptic practices, accounting procedures (tokens, balls, bullae, and tablets), and iconogra-

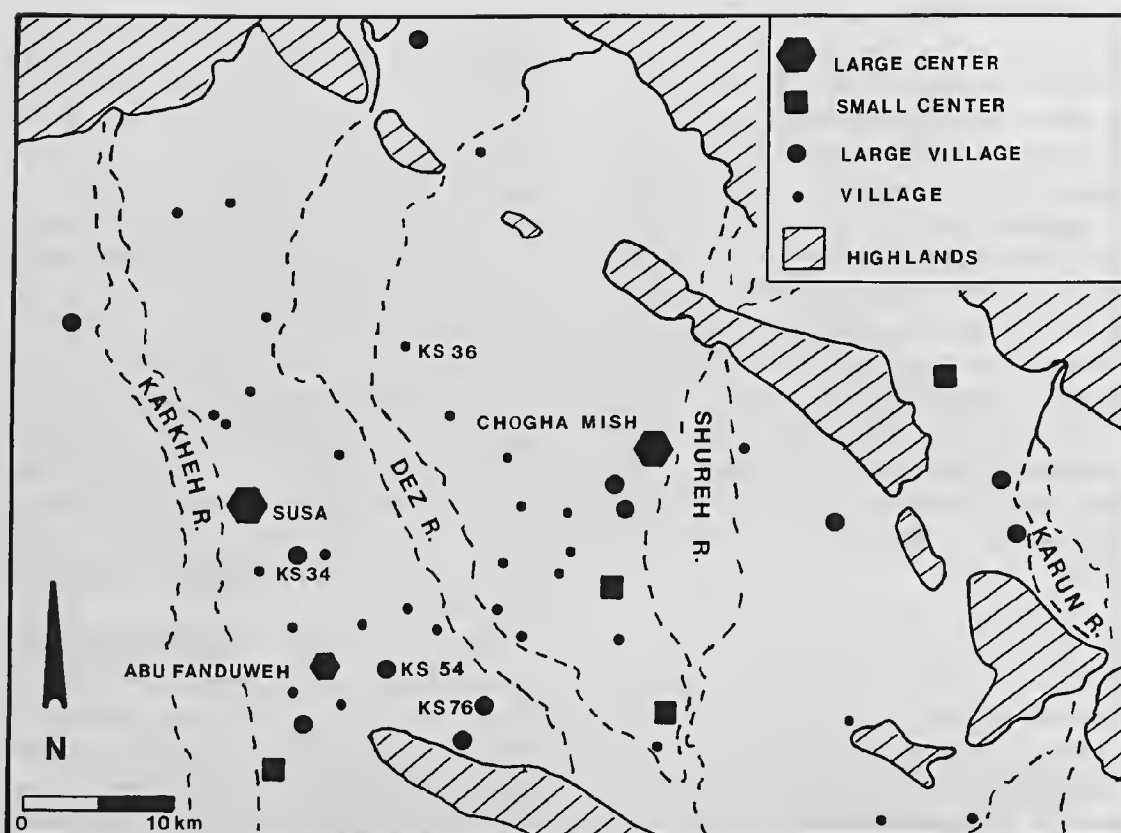


Fig. 2. The northern Susiana plain: settlement pattern at the peak of Uruk occupation.

phy as well. Moreover, if we may extrapolate from depictions in Uruk glyptic in Susiana, traditions of monumental and religious architecture also appear to have been uniform across the two areas (fig. 3Y-BB).<sup>4</sup>

The striking parallels that may be observed between the material culture of the Mesopotamian alluvium and the Susiana plain in the later part of the Uruk period have important implications for our conceptualization of the development of Susiana in the second half of the fourth millennium. Equivalent sealing and accounting practices in each of the two regions indicate uniform record keeping and administrative procedures (Schmandt-Besserat 1986) (fig. 3S-X). In turn, this may suggest the existence of largely analogous institutions—particularly if Nissen (1977) is correct in seeing the schematic seals that are common to both areas (often

depicting pigtailed women at work, e.g., fig. 3N, Q) as lower-level institutional seals. Comparable modes of social organization are also suggested by iconographical similarities in the fully modeled glyptic repertoires of each area: in each case it is the same larger-than-life male figure wearing his hair in a chignon who is depicted at the apex of the administrative and religious hierarchy (e.g., fig. 3M, P).<sup>5</sup> Other iconographic parallels evince a shared mythology (e.g., fig. 3I-L), and possibly even the existence of common religious rituals, as may be inferred from representations of apparently identical offerings brought into temples (e.g., fig. 3O, R).<sup>6</sup>

The evidence just outlined leaves little doubt that in the later part of the Uruk period Susiana was culturally as much a part of the Mesopotamian world as the alluvium itself. Any consideration of the emergence of Uruk civilization, therefore, must

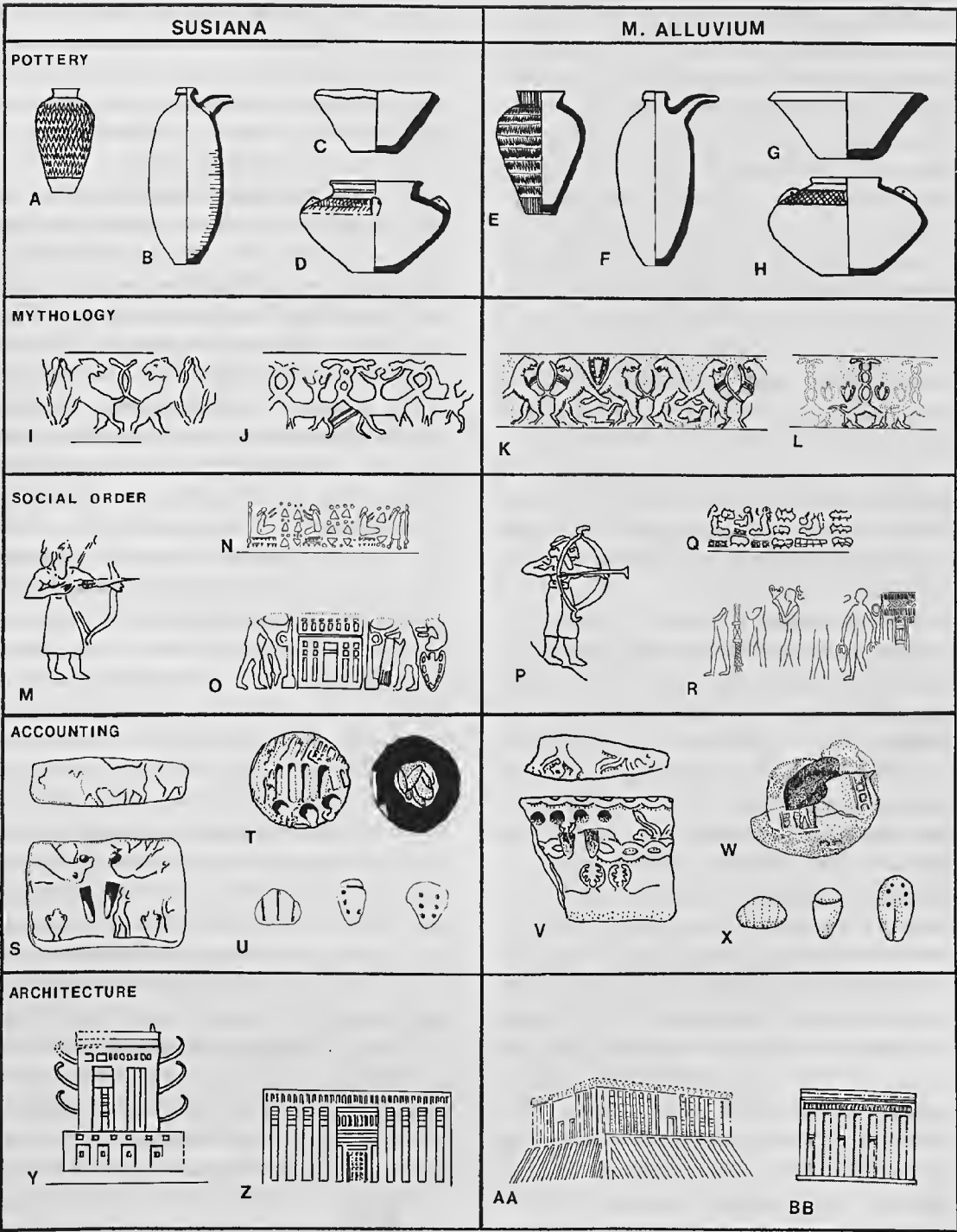


Fig. 3. Selected parallels between the cultural assemblages of the Susiana plain and the Mesopotamian alluvium in the Late Uruk Period (not to scale).

take into account the role of Susiana in that process. How did this convergence between two previously distinct culture areas come about? Henry Wright and Gregory Johnson see it as the natural result of long-term interaction between societies in Susiana and the Mesopotamian alluvium throughout the Uruk period (Wright and Johnson 1985; Johnson 1987, 1988/89). While this is plausible, the nature of the proposed interaction is yet to be defined, and the social mechanisms at work within societies in Susiana leading to the remarkable processes of acculturation must still be clarified. In the meantime, another possibility may be suggested to account for the convergence in material culture between the two areas: that the pervasive Uruk elements in Susiana denote a process of colonization by settlers from the nearby alluvium. I use the term "colonization" in its classic sense as implying an actual movement of population for the purpose of acquiring and holding territory and exploiting its economic resources (Finley 1976).

The colonization hypothesis is defended by an increasing number of scholars (e.g., Amiet 1986; Lamberg-Karlovsky 1985; Nissen 1983; Sørensen 1986a) and in my opinion fits best the data available. First, it explains the overwhelmingly Sumerian character of elite activities and material culture in Susiana by the later half of the fourth millennium. Second, it accounts for the apparently longer evolution of the Uruk tradition in Iraq as opposed to Khuzestan. Traditionally, the Late Susiana sequence of southwestern Iran has been thought to overlap with the very beginnings of the Early Uruk period in the alluvium. This was suggested initially by Le Breton (1957:94) more than thirty years ago on the basis of intuitive stylistic comparisons. His insight now appears supported by the absence in Susiana of a variety of pottery types that are found only at the onset of the Early Uruk sequence at Warka and disappear shortly thereafter (Adams 1981:60).<sup>7</sup> Another indication of a time lag between the start of the Uruk tradition in the two areas is provided by a comparison of available clusters of radiocarbon dates from Late Susiana levels at Susa and Jaffarabad in Susiana, from Bayat-phase con-

texts at Tepe Sabz in Deh Luran, and from Ubaid 4 levels at Tell el'OUelli in the alluvium (J. Oates 1983: fig. 9). Recalibrated under a single standard, the Late Susiana dates from Khuzestan are consistently later by a few centuries than those from Late Ubaid levels in the alluvium, which actually equate instead with the earlier Bayat range.

Third, the colonization hypothesis explains the archaeological break in the Susiana sequence preceding *and* following the Uruk period. This break is discernible in significant changes in the settlement pattern of the Susiana plain at the onset of the Uruk tradition that would otherwise be difficult to account for. These changes contrast dramatically with the situation in the Mesopotamian alluvium, where cultural continuity appears to have been the norm at the transition from the Ubaid to the Uruk periods (Adams 1981:59). This is best exemplified at the southern site of Eridu, where earlier Ubaid temples give way without interruption to ever more massive Uruk structures built along the very same lines (Safar, Lloyd, and Mustafa 1981). Not so in southwestern Iran. At Susa the massive stepped platform on the center of the acropolis was abandoned at the end of the Late Susiana period. Occupation at the site continued into the Uruk period (Canal 1978; Wright 1984b), but extended only over a diminished area of the acropolis (Johnson 1973). Also abandoned were a number of smaller dependent settlements in its environs (G. Dollfus, quoted in Weiss 1983:42). A parallel abandonment can be observed at Chogha Mish (H. J. Kantor, pers. comm., 1987). The dislocation of settlement at Susa and Chogha Mish reflects a pattern of regional significance. The onset of the Uruk tradition in Susiana was marked by a large jump in the number of settlements, and total occupied area trebles in the earliest Uruk phase—a substantial growth in population that reversed demographic trends of the preceding half millennium in the area (Wright and Johnson 1975: table III). The end of the Uruk tradition in Susiana is as disjunctive as its onset, and this serves to emphasize again the intrusive character of the Uruk presence in the area. Chogha Mish is once again abandoned, the size of Susa dimin-

ishes significantly for a second time (Alden 1987), and, in at least some portions of the site, there is a clear break in the archaeological and artifactual sequence (Acropolis I, Levels 17 and 16; see Le Brun 1971). Regionally, these changes are accompanied by a precipitous decline in total occupied area: settlement declines by a factor of three in comparison to the end of the Uruk period and by a factor of six in comparison with the earlier peak of Uruk settlement (Alden 1987).

Fourth, the colonization hypothesis explains the settlement pattern of the Susiana plain in the still little understood Early Uruk period, when settlements concentrate around Susa and Abu Fanduwah on the western portion of the plain—the one closest to the alluvium. In contrast, the eastern portion of Susiana, where Chogha Mish would eventually emerge as an important regional center, appears only lightly settled at the time, in spite of an agricultural potential that equaled that of the environs of Susa (Johnson 1987: table 21). Finally, the colonization hypothesis explains the full spectrum of Uruk site sizes and concomitant functions across the plain as well as the homogeneity of Uruk material culture throughout the region. Mesopotamian materials are found at all sites, from major administrative centers to the smallest hamlets whose location and size leave no doubt as to their rural orientation. If the Uruk presence in Susiana did not represent a process of wholesale regional colonization as has been argued, then we should expect to find archaeologically identifiable and spatially segregated traces of a different but contemporary tradition in the area. Such a pattern is in fact discernible in the environs of specialized Uruk outposts across the Mesopotamian periphery (below, chap. 3) but has not been recognized in the Susiana region—arguably one of the most intensively surveyed of the Near East.

The evidence for a colonization of the Susiana plain by settlers from the alluvium in the Uruk period is, I believe, compelling. Yet we know little about the actual mechanics of the process and less still about what happened to the supposedly few indigenous inhabitants of the area at the time of the

Uruk intrusion. Two possibilities could help account for the lack of pertinent evidence. One is that a portion of the original population may have shifted into a more nomadic existence, largely undocumented in the archaeological record. The second is that the remaining population was partially assimilated. As Amiet (1979a, 1979b) has perceptively noted, this last assumption finds some support in artifactual evidence from Susa, where numerical notation tablets with a single pictogram,<sup>8</sup> possibly in Proto-Elamite script, suggest the existence of a native substratum under the broad layer of elite Uruk culture revealed by the archaeological evidence reviewed above.

#### CHRONOLOGY AND CONCLUSIONS

Until the still relatively unknown Early Uruk sequences of the Mesopotamian alluvium and the Susiana plain become better documented, it will not be possible to ascertain exactly at what point in the Uruk sequence the colonization of the latter area started. It will be recalled that a number of ceramic types that appear early in the Uruk sequence at Warka and disappear soon thereafter are absent from Susiana, suggesting the existence of a time lag between the onset of the Uruk tradition in southern Iraq and its introduction into southwestern Iran. The problem of equating the two sequences is compounded further by the fact that many of the types that have been identified as "Early Uruk" in the seriation of surface survey collections in Susiana have no parallels in the deep sounding at Warka, which unfortunately remains our only guide to the earlier portion of the Uruk sequence in the alluvium.<sup>9</sup> Moreover, while the remaining Early Uruk Susiana types do appear early in the Eanna sequence, most also continue into later levels.<sup>10</sup>

The chronological difficulties in correlating the earlier portions of the Uruk sequences in Susiana and the alluvium mean that we cannot properly assess at this time the original impetus behind the Mesopotamian intrusion into Susiana. A tantalizing hypothesis, however, may be suggested for future testing. This is that the colonization of Susiana may be a collateral result of settlement dislocations and

north-south population shifts taking place within the Mesopotamian alluvium during the earlier half of the Uruk period as a result of the drying up of a major channel of either the ancient Tigris or Euphrates (Adams 1981; Gibson 1973, 1976).

Whatever its roots, it seems clear that the Mesopotamian intrusion did not cause the collapse of the indigenous prehistoric cultures of the Susiana plain. Rather, it merely took advantage of an internal process of disintegration that was at the time well advanced. The various Susiana surveys indicate that population and settlement densities peaked in the last half of the fifth millennium (Middle Susiana 3) and declined throughout the earlier half of the fourth millennium (Susa I or Late Susiana period) (Wright and Johnson 1975: table III). This endogenous process is still poorly understood but parallels similar developments in the Kur River basin of Fars (Sumner 1977, 1986) and the various highland plains surrounding Susiana (H. T. Wright 1987). Paradoxically, Susa emerged as an important center precisely while regional population densities slumped (H. T. Wright 1984a, 1986). Nevertheless, surveys show that by the very end of the Late Susiana period (Transitional Susa A), Susa too had declined and no single preeminent site existed in Susiana (Johnson 1973: fig. 15).

In terms of its economic and political potential, then, Susiana was largely undeveloped at the onset of the Uruk period. Uruk settlers were thus drawn into a fertile and potentially quite productive area

that was only lightly settled and could surely mount only minimal resistance. However, to speak of an Uruk intrusion and of the colonization of the Susiana by Uruk settlers is not to imply the existence of a well-coordinated effort by a single Uruk community holding sway over the whole plain. This is incompatible with the evidence presented by Johnson for interregional warfare within Susiana in the final phase of the Uruk period. Susa and Chogha Mish thus appear to have been independent from each other, and almost certainly were also independent from contemporary polities in the Mesopotamian alluvium.

The Mesopotamian intrusion in southwestern Iran was by no means an isolated phenomenon. Rather, it should be understood within a wider framework of analysis that takes into account other processes of expansion of societies in the Mesopotamian alluvium in the Uruk period that the move into Susiana may have helped spur. However, these varying processes appear to have been of a significantly different nature and did not involve the taking over of large expanses of territory. One such process was the establishment of a number of strategically located Uruk enclaves in areas of the north and northwestern periphery of the alluvium, which represented a critical geographical link between the resource-starved Mesopotamian lowlands and large portions of the surrounding highlands where coveted resources were obtainable.

## Uruk Settlements in the Syro-Mesopotamian Plains and Surrounding Highlands

The settlement pattern of Uruk sites in the high plains of northern Mesopotamia, northern Syria, and southeastern Anatolia, the area that here for the sake of convenience is referred to simply as Syro-Mesopotamia, differs markedly from that just described for the Susiana plain. Whereas in Susiana Uruk sites are found in a whole range of sizes spread more or less evenly over the landscape, in the Syro-Mesopotamian plains only a small number of urban-sized enclaves are found. In those cases where the evidence is most coherent, it can be seen that these centers were surrounded by a cluster of immediately dependent villages and that they were established at locations of considerable strategic importance. When Uruk sites are found away from these clusters, they are always small, isolated, and appear to have been closely linked to overland routes in and out of the northern plains. This varying settlement pattern is indicative of a set of relationships with indigenous communities that may be profitably conceptualized within the framework of the more informal (i.e., economic) modes of imperial relationships discussed in the introductory chapter and is surely attributable to a number of factors, including distance away from the alluvium and the previous settlement history of the intruded areas. However, another element that was of considerable importance in shaping the pattern of Uruk

settlement in the northern plains was the historical role of the region as a land of passage, a bridge connecting a number of disparate but complementary environmental and cultural areas. Thus, before proceeding to an examination of the nature and intensity of contacts between southern Mesopotamia and its north and northwestern periphery in the Uruk period and how those contacts affected the subsequent development of preexisting polities, it is necessary to review the evidence for the geography and climate of the Syro-Mesopotamian plains, factors that more than anything else are responsible for the historical role of the area as a hub of overland communications.

### GEOGRAPHICAL FRAMEWORK

Even a cursory review of the physical geography of the Near East reveals that the high plains of Syro-Mesopotamia constitute an unusually coherent unit of study. In great measure, this coherence is derived from the fact that the area is characterized by a distinctive topography, hydrology, and climate that stand in sharp contrast to the corresponding features of immediately surrounding regions. In simplified fashion, Syro-Mesopotamia may be characterized as a series of undulating plains directly south of the massive Taurus/Anti-Taurus range of Anatolia and extending from the Assyrian foothills of the Zagros

range in the east to the Amanus Mountains and the Jebel Zawiyah paralleling the Mediterranean coast in the west. Within this broad area, terrain elevation and precipitation vary considerably, both being higher toward the north and northeast in the direction of the Taurus/Zagros piedmont. The elevation and rainfall gradients diminish slowly toward the south as the plains become progressively lower, drier, and more marginal. The effective southern limit of the Syro-Mesopotamian plains is thus marked more by the decline in rainfall than by geographical relief and accordingly varies from year to year. In average years, however, a range in the 300–350 millimeter isohyet may be considered as the minimum necessary to safeguard against catastrophic crop failure.<sup>1</sup> That range falls somewhere along an imaginary arc immediately south and east of Aleppo, just south of Carchemish on the Euphrates, north of Hassaka on the Khabur, and south of Mosul on the Tigris (fig. 4). Settlement and agriculture concentrate north of this arc, and the combination of relatively abundant precipitation, Irano-Turanian steppe vegetation, and deeply incised rivers means that there is a heavy emphasis on extensive dry-farmed grain cultivation in the vicinity of settled areas and pastoralism elsewhere. South of this arc, human occupations become increasingly rare and are restricted to small patches in the immediate vicinity of the floodplains of the perennial waterways, where local irrigation is possible if weirs are built and canals dug.

In somewhat greater detail, it is possible to subdivide the Syro-Mesopotamian plains into three subregions. From west to east these are: the Syrian Saddle, the northern Mesopotamian plains (el-Jezira), and the Transtigradian Plains. These subregions will now be examined in greater detail (fig. 4).

#### The Syrian Saddle

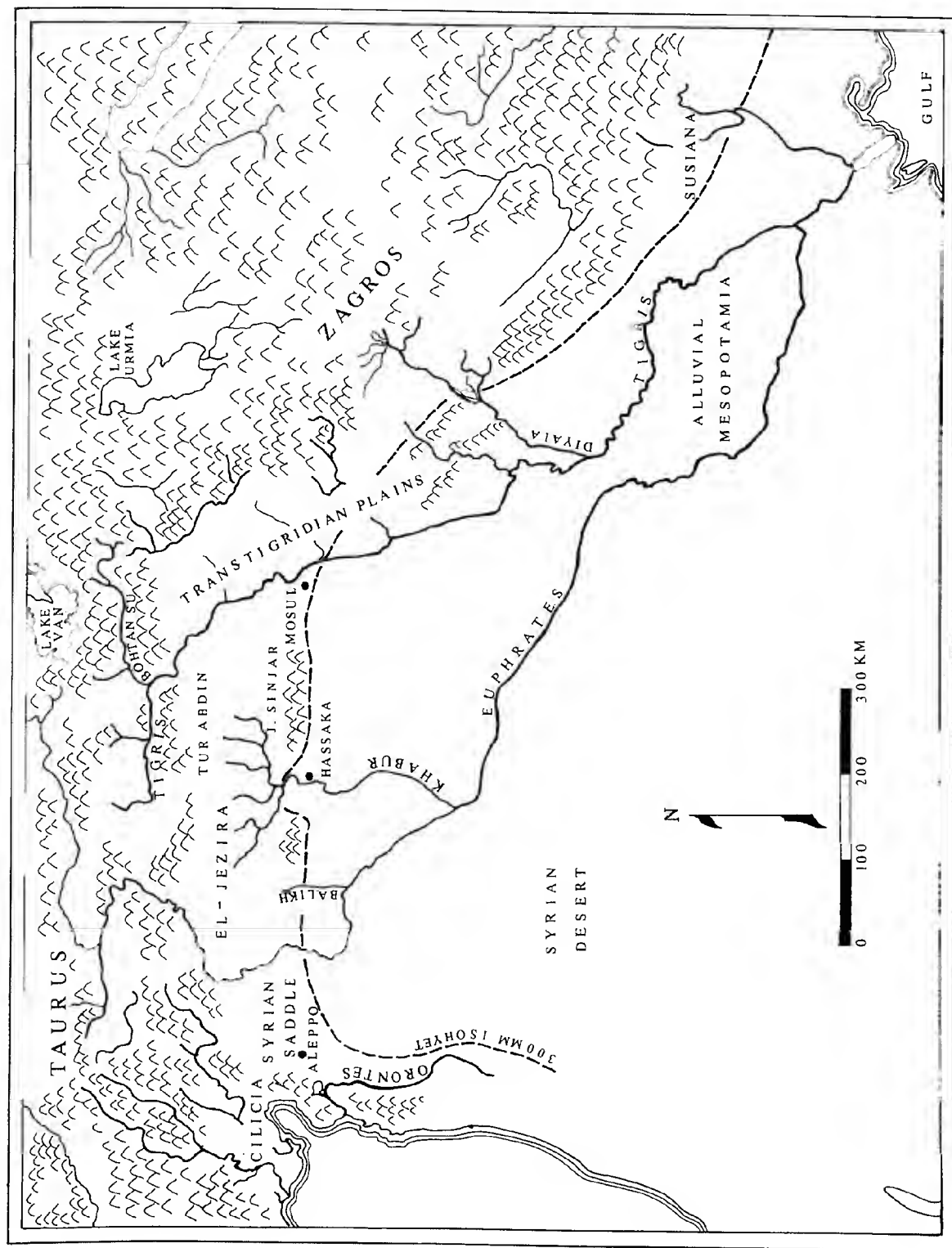
West of the Levantine coast and the Amanus and Jebel Zawiyah ranges are the high plains of the Syrian Saddle, the area that may be identified entirely with the Syria of classical sources.<sup>2</sup> On their northwestern end and wedged between the Amanus

and the Jebel Ansariyah are the plains of Antioch and Islahiyyeh, traditional gateways between Syria and southern Anatolia. Because of their proximity to the surrounding mountains and the Mediterranean climatic region, annual average precipitation in the Antioch/Islahiyyeh areas is high (400–500 mm), and this ensures reliable rainfed crops even in unusually dry years (Braidwood 1937). The rest of the Syrian Saddle is composed primarily of fertile Terra Rosa soils and represents an easily traversed region devoid of sharp internal subdivisions. It is best described as a broad, relatively well-watered upland plain interrupted by low undulating hills and shallow valleys, which slope gently from north to south away from the Taurus/Anti-Taurus and from west to east in the direction of the Euphrates. The northern portion of this area, in the environs of Gaziantep, is formed by rolling plains cut by a number of small rivers, including the Suban Su, the Afrin Su, the Nizip Su, and the upper reaches of the Sajur Su. To the south is the plain of Aleppo, watered by the Qoueiq River. Arguably the most important and agriculturally most productive region of modern Syria, the Aleppo region receives adequate precipitation, averaging some 300–400 millimeters per year (Dorrell 1981). East and southward from Aleppo in the direction of the Euphrates, however, the Syrian Saddle becomes progressively drier, more eroded, and more marginal as it approaches and gently blends into the northern reaches of the Syrian desert (Grant 1937). Historically, this area has been exploited primarily by nomadic or semi-nomadic pastoralists, although some dry-farmed cereals may be grown in good years, particularly in the environs of the Sajur basin (British Admiralty 1919, 1943; Wirth 1971).

#### The Jezira of Mesopotamia

Separated from the Syrian Saddle by the Euphrates River and extending eastward up to the Tigris are the high plains of northern Mesopotamia, often referred to by their Arabic name el-Jezira. The Jezira plains slope gently in a southeast direction away from the Taurus to the north and the Euphrates in the west. In addition to the Euphrates and





*Fig. 4.* Northern Syria, northern Mesopotamia, and southeastern Anatolia: principal geographic features and subdivisions of the Syro-Mesopotamian plains.

Tigris rivers, the Jezira is also cut by the Balikh and Khabur rivers, the two principal east bank tributaries of the Euphrates. The area is also interrupted by two parallel mountain chains, the Karacadağ/Tur Abdin to the north and the Jebel abd el-Aziz/Jebel Sinjar to the south. The Tur Abdin group, some 200 kilometers in length, is the most massive of the two. The southern chain is more modest and is broken by the Lower Khabur River. Both sets of mountains run roughly parallel to the Taurus along an east-west axis and effectively divide northern Mesopotamia into two parallel sets of plains (Wirth 1971; British Admiralty 1943, 1944). The main and historically most important of these plains is that traditionally referred to as the High or Upper Jezira: an irregular band of gently undulating terrain located entirely north of the abd el-Aziz/Sinjar ranges (Dillemann 1962; van Liere and Laufrey 1954/55). Average yearly precipitation is high and the degree of interannual variability is relatively low. A range of 400–500 millimeters per year is common at the foot of the Tur Abdin, while averages of 200–250 millimeters are the norm in the environs of the Jebel Sinjar (Wirth 1971: map 3). Toward the west in the direction of the Euphrates, the Upper Jezira is relatively barren except in winter and spring and is characterized by gentle limestone ridges interrupted by deeply incised seasonal wadis and, occasionally, by relatively extensive alluvial plains such as that of Harran (Erinç 1980). The eastern sector of the Upper Jezira, however, is well watered, since the area is cut by a number of perennial streams which drain the southern flank of the Tur Abdin massif and form the funnel-shaped headwaters of the Khabur River. The plains in this region flatten out toward the south and southeast as the abd el-Aziz/Sinjar ranges are approached and in general are covered with fertile alluvial soil (Dobel 1978).

In contrast to the agriculturally rich Upper Jezira, the Lower Jezira is formed by a dry, flat, and relatively featureless steppe extending southward from both the 200–250 millimeter isohyet and the abd el-Aziz/Sinjar range down to the flat alluvial plains of Babylonia. With few exceptions—such as

the area immediately south of the Jebel Sinjar, which receives higher precipitation rates on account of the nearby mountains, and specific low-lying portions near the confluence of the Balikh and Khabur and the Euphrates, where gravity-flow irrigation becomes practicable—habitation in the Lower Jezira is only possible in relatively narrow strips immediately adjacent to the perennial watercourses (British Admiralty 1943, 1944).

#### The Transtigridian Plains

East and northeast of the Tigris rise the Transtigridian Plains, a crescent-shaped extension of the northern Mesopotamian plains in the direction of the eastern Taurus and the Kurdish sector of the Zagros highlands. The region is characterized by grassy rolling hills and depressions, which become increasingly sharper as the lower mountain folds are approached. The Transtigridian Plains are cut by a number of east bank tributaries of the Tigris draining the western flank of the Zagros, the most important being the (eastern) Khabur/Hezil Su, the Khosr, the Greater Zab, the Lesser Zab, the Adhaim, and the Diyala. Together, these tributaries divide the area wedged between the Tigris and the highlands into five distinct sections, each characterized by a relatively broad upland plain extending southwestward from the point the rivers emerge from the mountains. From north to south these are the Cizre-Zakho, the Mosul, the Erbil, the Kirkuk, and the Diyala/Hamrin plains. Each of these plains, in turn, controls access to the principal highland passes across the surrounding highlands. Average yearly precipitation decreases toward the southwest but is on the whole abundant, with the greater portion of the Transtigridian Plains in the 300–400 and 400–500 millimeter isohyet range (British Admiralty 1944; Weiss 1983: 39–42, figs. 2–3).

The role of the Syro-Mesopotamian plains as a land of passage uniting otherwise distinct regions derives in great measure from the topography and climate of the area. The relatively well-watered plains and their significant agricultural potential ensure

the availability of natural grasslands for use as fodder as well as other needed supplies. Unless outweighed by political considerations, these environmental factors make of the Syro-Mesopotamian plains a natural thoroughfare for east-west and north-south communication across the Near East. They represent the only juncture where overland routes from the Anatolian and Iranian plateaus, the Mediterranean coast, the Mesopotamian alluvium, and the Persian Gulf unite into a single network (Semple 1930). Prior to the extensive use of the camel for transportation and the opening of long-distance routes across the more barren sectors of the Syro-Arabian desert sometime in the later half of the second millennium B.C., overland routes in and out of the Mesopotamian alluvium had to follow either the Tigris or the Euphrates northward into Syro-Mesopotamia. The strategic importance of the area was not lost on societies of southern Mesopotamia in the Uruk period, which attempted with some success to dominate the critical lines of communication crisscrossing the region.

## URUK ENCLAVES IN SYRO-MESOPOTAMIA

### Discovery and Background

Only recently, as research has begun to be focused in a systematic manner on the Syro-Mesopotamian plains, has it become possible to characterize the settlement pattern of Uruk sites in the area. The last two decades or so, in fact, have witnessed a veritable revolution in our understanding of the archaeological history of Syro-Mesopotamia, as the number of surveys and excavations has grown exponentially. Much of the impetus for this research has been provided by the construction of dams on the principal waterways of the Syro-Mesopotamian plains. Along the Euphrates, for example, the construction of the Keban Dam in the late 1960s and early 1970s opened significant portions of the nearby Anatolian highlands to archaeological exploration, in particular the Malatya, Altınova, and Elazığ plains (Whallon 1979). Just south of the Keban area, two additional dams

were erected during the 1980s, the Karakaya and Atatürk (formerly Karababa) dams. The latter is the largest in Turkey and is now in the final stages of construction. The building of these dams, in turn, resulted in the exploration of large portions of the Taurus piedmont and considerable stretches of the terraces flanking the upper elbow of the Euphrates bend in southeastern Turkey (Özdoğan 1977; Wilkinson 1990a). Similarly, plans for two further dams south of the Atatürk region, the Birecik and Carchemish dams, have resulted in recent surveys of most of the remaining stretch of the Euphrates in Turkey up to the Syrian border (Algaze 1989a; Algaze et al. 1991). This growing corpus of archaeological information from southeastern Anatolia is complemented by excavations and surveys downstream in northeastern Syria resulting from the construction of the Tabqa and Tishreen dams. The latter is now being erected near Menbij, while the former was built two decades ago in the lower elbow of the Upper Euphrates bend (van Loon 1967).

To the east along the Khabur and Tigris rivers the situation is similar, although research efforts have been to date less intensive. A dam now under construction on the Lower Khabur has resulted in surveys and excavations in the environs of Hassaka (Monchambert 1984). The Upper Tigris, too, has recently been explored largely as a consequence of ongoing or planned dam projects. Two new dams (İlsu and Cizre) scheduled to be built along the Tigris within southeastern Turkey have opened for survey the affected areas along the Tigris itself and several of its tributaries (Algaze 1989a; Algaze et al. 1991). Downstream and just across the border from Cizre, the recent construction of the Eski Mosul Dam in northern Iraq similarly resulted in surveys and excavations in the Tigris basin just north of Mosul (Demirji 1987). Of equal importance are associated surveys of areas earmarked for intensive agricultural development that have taken place in the Tell Afar area of the Upper Jezira just west of the Tigris (Ball, Tucker, and Wilkinson 1989; Wilkinson 1990b). Finally, the construction in the 1960s of dams in the Dokan area of the Lesser Zab

and the Darband-i Khan gorge on the Diyala headwaters, both in Iraqi Kurdistan, allowed some research to be conducted in highland plains that are now largely inaccessible to archaeologists (Abu al-Soof 1964).

As knowledge of the archaeology of Syro-Mesopotamia has increased, interest in the area as a whole has also grown. Partly as a result, a variety of complementary surveys and excavations have been undertaken, principally in northern and north-eastern Syria and northern Iraq. Areas explored include (1) the Qoueiq River basin in the vicinity of Aleppo (Matthers 1981); (2) portions of the Sajur River in Syria south of the Turkish border (Sanlaville 1985); (3) portions of the Euphrates basin within Syria south of the Tabqa Dam and north of the Iraqi border, in particular between Lake Assad and Raqqa (Kohlmeyer 1985), in the vicinity of Ashara (ancient Terqa) (Simpson 1983), and between Deir ez Zor and Abu Kemal in the environs of Mari (Geyer and Monchambert 1987); (4) the Balikh basin north and south of the Turkish border (Yardımcı 1991; Akkermans 1984; van Loon 1988); (5) the Lower Khabur basin (Röllig and Kühne 1977/78; Monchambert 1984); (6) the Wadi Jarrah (Weiss 1986; Wattenmaker and Stein 1989) and Wadi Jaghjagh (D. Oates 1977, 1983) branches of the Upper Khabur; and (7) parts of the Upper Jezira in northeast Syria (Meijer 1986) and northern Iraq (Wilkinson 1990b).

Many of the excavations and some of the surveys are still in progress, much of the relevant material remains unpublished or only incompletely published, and whole areas remain unexplored, principally portions of the Balikh, Khabur, and Tigris basins within southeastern Turkey. Nevertheless, an intelligible picture of the history and archaeology of large sections of Syro-Mesopotamia is beginning to emerge, especially for developments alongside the principal waterways. Particularly important are the results bearing on the Late Chalcolithic period in Syro-Mesopotamia (second half of the fourth millennium B.C.) and the transition to the Early Bronze Age. Most startling has been the evidence for intense contacts between the civilization of Uruk-period Mesopotamia and

contemporary cultures of the north. That such contacts had taken place had, of course, been common knowledge for a long time; what was not apparent until now was their intensity and nature.

#### The Location of Uruk Enclaves

In terms of the long-term development of the Syro-Mesopotamian plains, the presence of urban-sized sites with an assemblage that is wholly of southern Mesopotamian Uruk derivation represents, not a break in the sequence—local sites were not replaced to any great extent—but rather a highly selective intrusion. This intrusion took place within the context of an indigenous Late Chalcolithic culture with a long *in situ* development that was by all accounts flourishing. Characterized by chaff-tempered ceramics of the type first defined by Braidwood for Phase F of the Amuq sequence (below, chap. 5), this preexisting assemblage has been shown by surveys and excavations to have had a broad distribution extending from coastal Syria through to the Transtigradian Plains and into the southern flanks of the Anatolian highlands. Within this extensive geographical horizon, Uruk sites are few in number and are only found at very selective locations, invariably on or near the junctures of the main north-south waterways and the principal east-west overland routes. At those locations, to judge from a variety of complementary excavation and survey evidence, southern sites are typically composed of a central “enclave” of sizable proportions surrounded by a varying number of much smaller satellite villages. The latter may have served to supply the central sites with agricultural and pastoral products, but this is yet unconfirmed by detailed paleobotanical and paleozoological analyses.

Uruk enclaves and associated clusters of the type described have been found along each of the three principal rivers of the Syro-Mesopotamian plains. The evidence is clearest along the Euphrates, where minimally three enclaves existed: the Habuba Kabira-süd/Tell Qannas/Jebel Aruda complex in the lower elbow of the river bend within the area now flooded by the Tabqa Dam in north-

eastern Syria, Carchemish and several sites in its immediate vicinity just north of the border between Turkey and Syria, and Samsat on the upper elbow of the river bend within the area submerged by the Atatürk Dam in southeastern Anatolia. One enclave has been identified thus far along the Upper Khabur, Tell Brak on the Wadi Jaghjagh, and another existed at the site of ancient Nineveh, on the Upper Tigris near Mosul.

*Upper Euphrates Enclaves.* Of the several Euphrates enclaves, the clearest case is that recently excavated in the Tabqa area. This enclave was centered at the site of Habuba Kabira-süd/Tell Qannas some 15 kilometers north of Meskeneh. The Uruk settlement at this location was perched on a low terrace 7–10 meters directly above the river floodplain and was excavated jointly by a German team in the lower parts of the site (Habuba Kabira-süd) and a Belgian team in the associated acropolis (Tell Qannas). As the site was largely unoccupied after the Uruk period, extensive horizontal exposures of Uruk levels were practicable, totaling well over 20,000 square meters. These unparalleled exposures revealed that an earlier, apparently small and short-lived occupation (judging from the limited number of replasterings of its walls) was replaced by a well-planned urban-sized settlement with carefully laid-out streets and well-differentiated residential, industrial, and administrative quarters—all apparently constructed as part of a single master plan (fig. 5). The administrative/religious center of the city was located at Tell Qannas, where a series of monumental buildings of tripartite plan was uncovered. These structures are of a type characteristic for public architecture of the Uruk period in southern Mesopotamia.

Immediately north of the Qannas acropolis and connected to it by a long avenue running parallel to the river along the length of the settlement was the main residential area of the city. Although only partially excavated, this quarter was impressive in its extent. Regularly laid out on either side of the main thoroughfare were numerous houses, all in variations of the tripartite plan common for the more massive structures of Qannas. The whole settle-

ment was surrounded by a sturdily built fortification wall, which is preserved on its northern and western sides. This wall was 3 meters wide and was studded with regularly spaced rectangular towers on its exterior. At least two gateways into the city were found, both on its western side (Finet 1979; Ludwig 1979; Strommenger 1980a; Sürenhagen 1986a). Directly southwest of Tell Qannas was an extended low mound area that has been shown by surveys and a few limited probes to be contemporaneous with the walled settlement to the north (Heinrich et al. 1973:9). This area was never exposed to any great extent, and it is uncertain whether or not it was encompassed within the city walls (fig. 5).

Dutch excavations at Jebel Aruda, about 8 kilometers north of the Habuba/Qannas city, have exposed another important Uruk settlement, apparently of a different nature and significantly smaller than the Habuba/Qannas settlement. Strategically situated on a limestone ridge towering some 60 meters above the level of the surrounding plain, the Uruk installation at Jebel Aruda had as its center two monumental niched and buttressed buildings of the usual tripartite type and associated raised terraces similar to those uncovered at Tell Qannas. However, the Aruda structures did not stand isolated from the rest of the nearby settlement as was the case at Qannas. Flanking the central Temenos area at either side were associated structures, apparently residential in character (van Driel and van Driel-Murray 1979, 1983). Once again, individual compounds are similar in plan to those characteristic for Habuba Kabira-süd, but some are larger, suggesting elite housing connected in some way to the nearby monumental structures (fig. 6). The relationship of the small Aruda settlement to the much larger Uruk city downstream remains enigmatic. However, it is likely that Strommenger (1980a) is correct in that Aruda functioned as the overall administrative center for Uruk sites nearby. This assumption is supported by the defensible position of the hilltop settlement and the elite character of its structures.

The scale of the Uruk cluster in the Tabqa area may be inferred from the main enclave at Habuba-

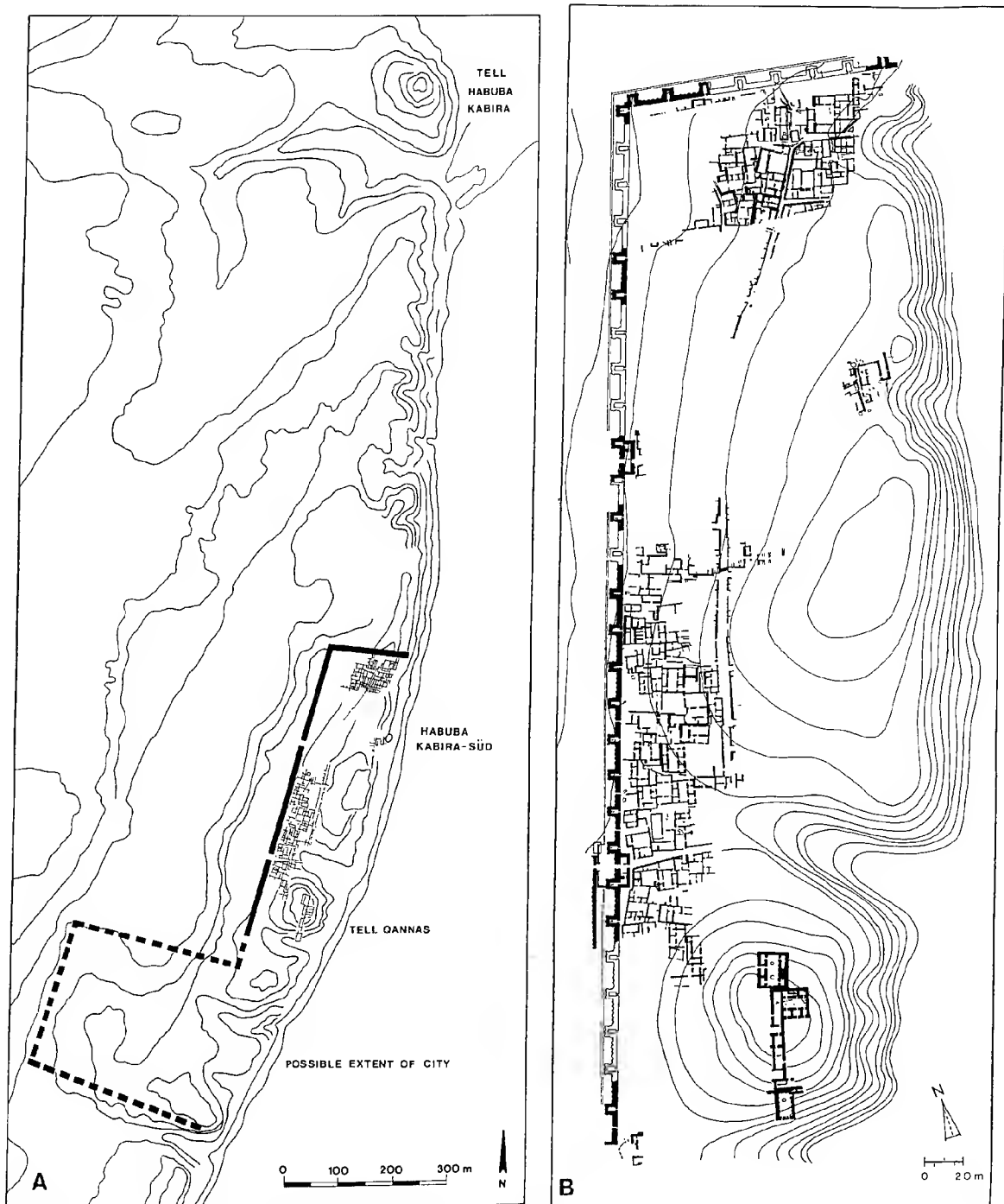


Fig. 5. Plan of Habuba Kabira-süd and Tell Qannas. (A) Possible extent of the city; (B) detail of excavated areas.

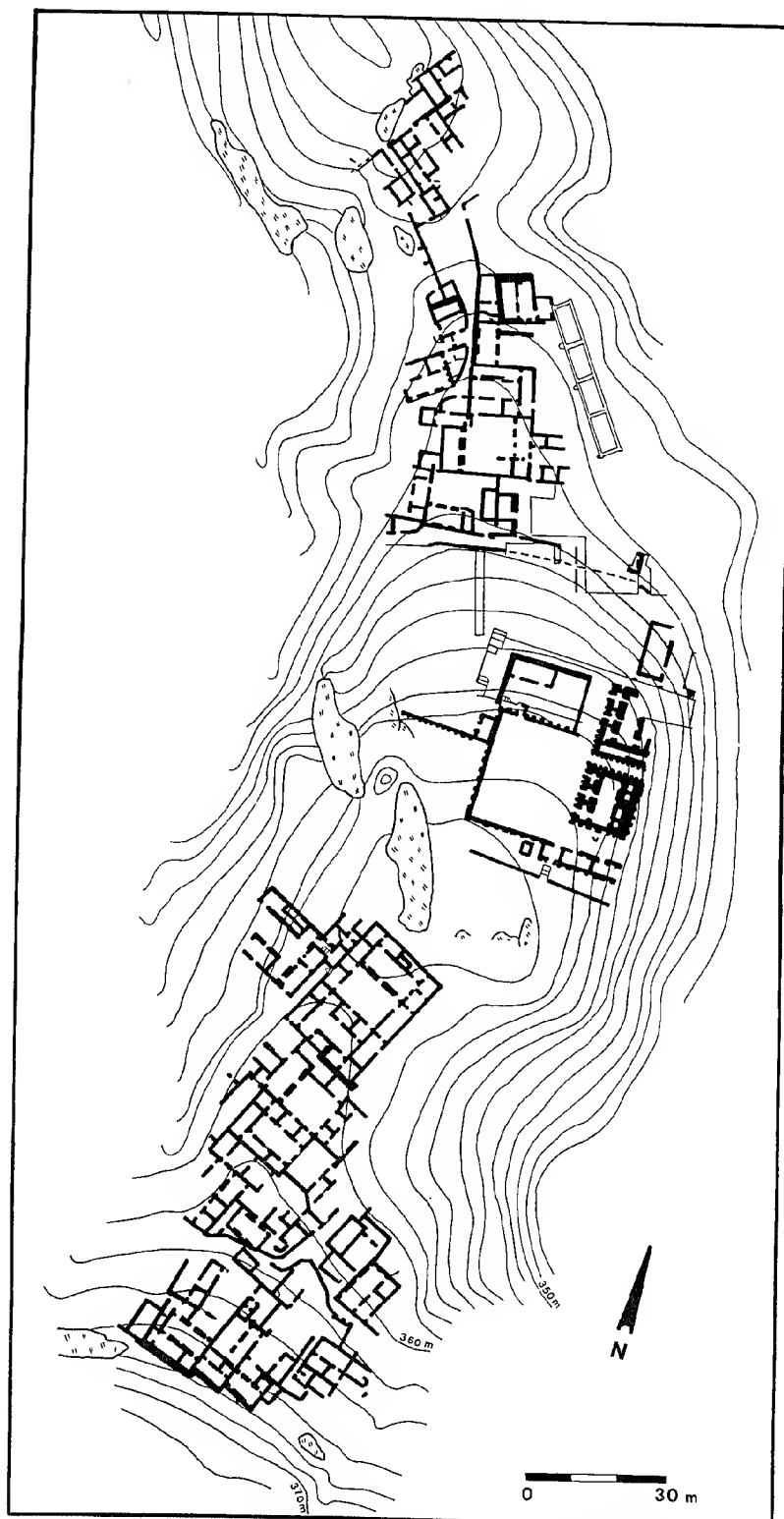


Fig. 6. Central Temenos and associated Uruk structures at Jebel Aruda.

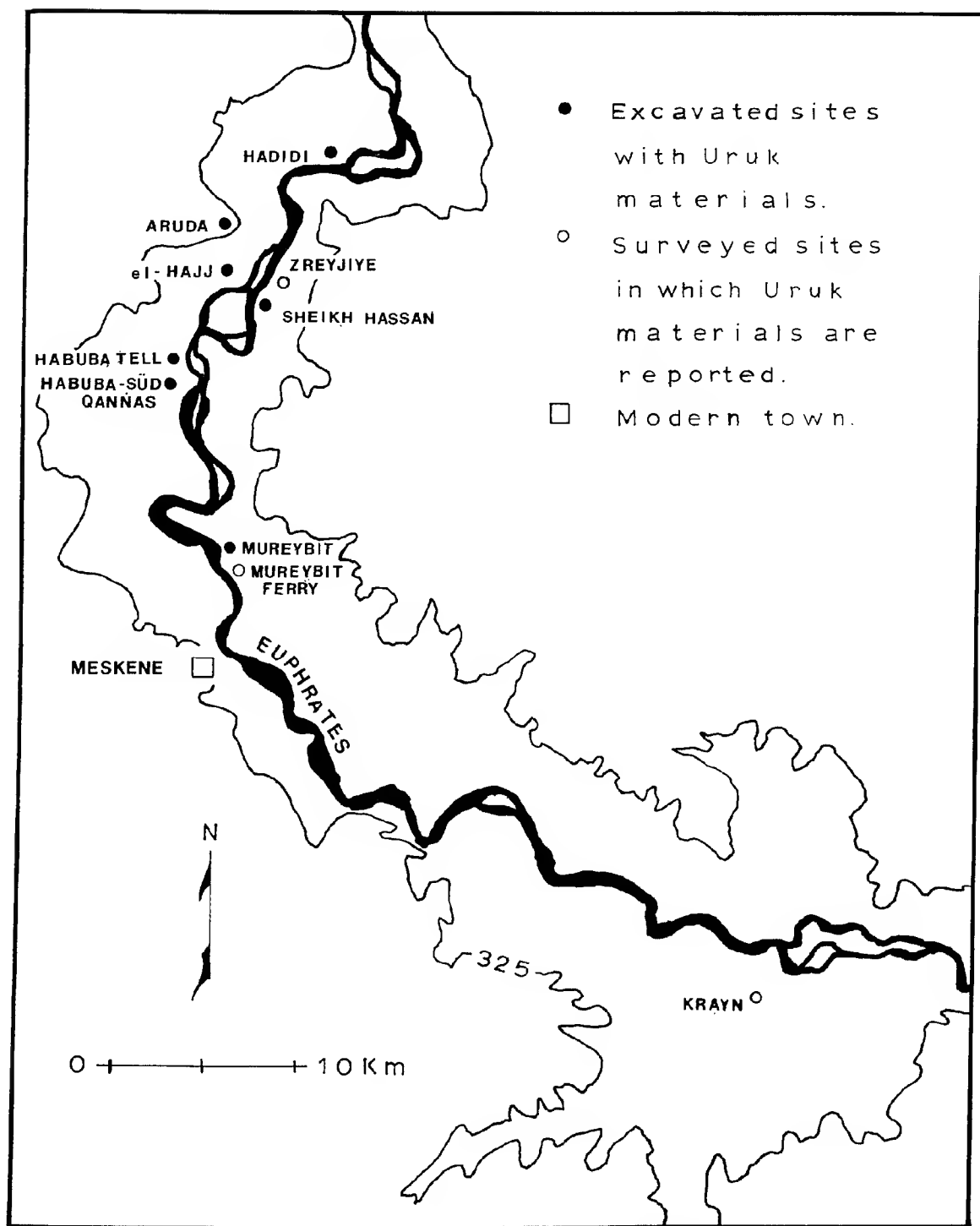


Fig. 7. Northeastern Syria: sites in the Tabqa Dam area where Uruk materials have been recovered or reported.



süd/Tell Qannas. The area encompassed by the city wall as preserved is about 10 hectares ( $600 \times 170$  m). The settlement is sure to have been larger than the walled portion, however, since the southern sector of the fortification wall has eroded away and, as will be recalled, directly southwest of Tell Qannas existed a substantial settled area of the Uruk period not encompassed by the city wall. Thus the minimum extent of the settlement must have been close to 18 hectares (Strommenger 1980a:33). Moreover, a larger size of about 40 hectares is not impossible, since surface traces of Uruk ceramics were also found across a 200-meter-wide band extending north of the walled settlement for a further distance of about 1 kilometer (Sürenhagen 1974/75:45) (fig. 5). To this must be added the roughly 2 hectares of settled area at Jebel Aruda.

Additionally, it is clear that Habuba/Qannas and Aruda were not the only Uruk settlements in the lower elbow of the Euphrates bend. Uruk assemblages have been identified with certainty in five other excavated sites in the area surrounding the Habuba/Qannas enclave. These are (1) Tell Habuba Kabira, 1 kilometer north of Habuba (Strommenger 1980a:69); (2) Tell el-Hajj, about 5 kilometers north of the latter (Stucky et al. 1974:45–49); (3) Tell Hadidi, some 9 kilometers upstream of el-Hajj (Dornemann 1988:18); (4) Tell Mureybit, about 10 kilometers downstream from Habuba and on the opposite (east) bank of the river (van Loon 1968:277); and (5) Tell Sheikh Hassan, a small occupation directly opposite Habuba that has yielded a surprisingly long sequence of Uruk deposits (Boese 1986/87). Uruk ceramics are also reported in at least three other nearby mounds, but this is unconfirmed by excavations.<sup>3</sup> Whatever the total number of occupations at the time, it is apparent that in the Tabqa area we are dealing with both a central Uruk settlement of considerable size and a cluster of possibly dependent smaller settlements in its immediate vicinity (fig. 7).

The other Uruk enclaves along the Euphrates have been exposed to a much lesser extent and are only poorly understood. However, extrapolating from available excavation and survey data, they too must have represented impressive settlements equal

to their Tabqa counterparts. Another cluster of Uruk sites existed some 80 kilometers upstream from the Tabqa area, at a point where the terraces flanking the Euphrates become wider, creating broad patches of level, often irrigable, land. Only recently defined by surveys in southeastern Turkey (Birecik and Carchemish Dam areas) and northeastern Syria (Tishreen Dam area), this cluster stretches from the vicinity of the modern town of Birecik in Turkey to the neighborhood of Jerablus, just across the border in Syria and about 30 kilometers to the south (fig. 8).<sup>4</sup> Eighteen Uruk sites have been recognized thus far, each yielding beveled-rim bowls and, depending on the size of the sample, all or portions of a typical grit-tempered Uruk ceramic repertoire that contrasts markedly with the chaff-tempered assemblage of nearby Late Chalcolithic sites. Most of the Uruk sites in the Birecik-Jerablus area are relatively small, not larger than village-sized, and are located on low terraces bordering the river, usually on the edge of the first contour line overlooking the floodplain. Four sites just north of the Turkish-Syrian border, however, are more substantial (Algaze et al. 1991). These larger sites form part, no doubt, of one or more enclaves comparable to those uncovered in the Tabqa area.

One component of the Uruk settlement complex in the Birecik-Jerablus area was the important site of ancient Carchemish (fig. 9). Early British soundings into the acropolis of the mound revealed a variety of Uruk ceramics (fig. 10), at least one typical cylinder seal in geometric style depicting three superimposed rows of fish with numerous parallels at Uruk sites elsewhere,<sup>5</sup> and traces of what appears to have been a long-lived Uruk occupation, minimally 3 meters in depth, superimposed on Late Chalcolithic levels.<sup>6</sup> However, the limited exposures obtained at Carchemish and the limitations inherent in the excavation methodology employed do not allow for a good approximation of the site's Uruk-period extent or for an understanding of its nature at the time.

More reliable data are available for several newly discovered Uruk settlements in the immediate vicinity of Carchemish. Three such sites were

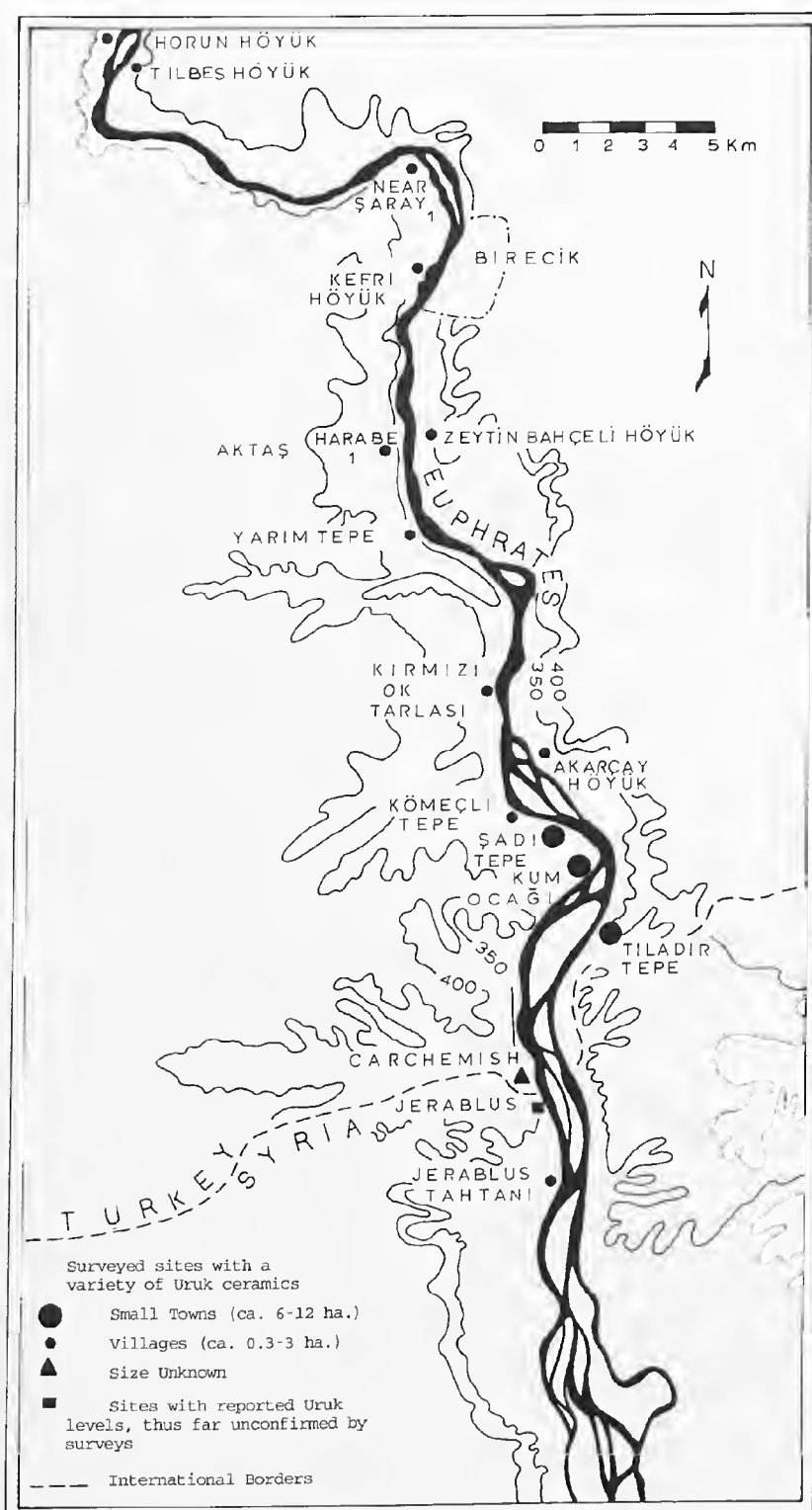
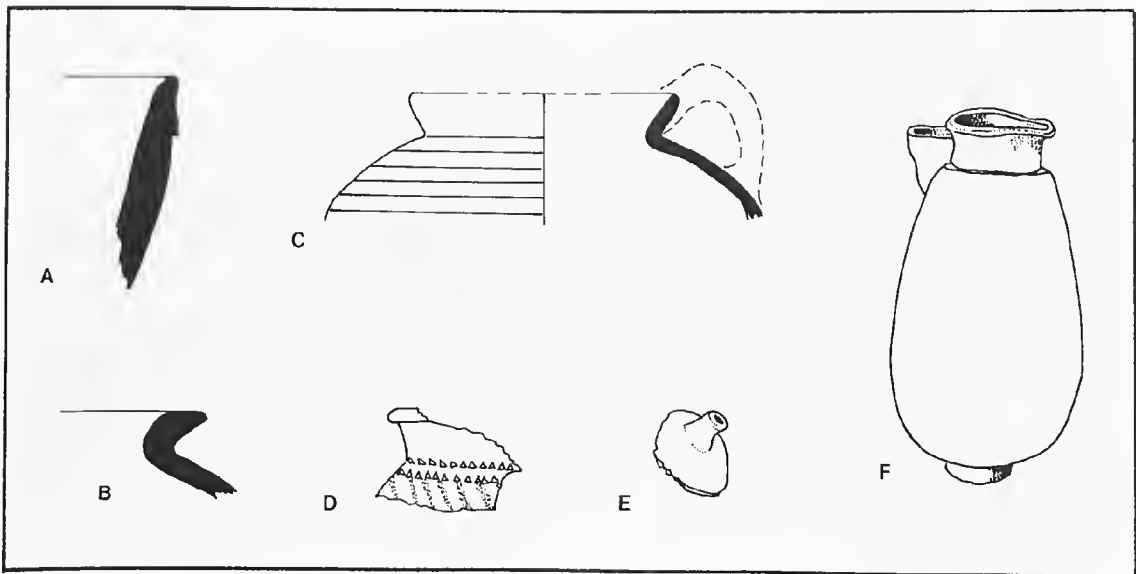


Fig. 8. Southeastern Anatolia and northeastern Syria: sites in the Birecik-Jerablus area where Uruk materials have been recovered or reported.



*Fig. 9.* Acropolis of Carchemish and nearby lower terrace: view from the north.



*Fig. 10.* Selected Uruk ceramics from the acropolis mound at Carchemish (not to scale).

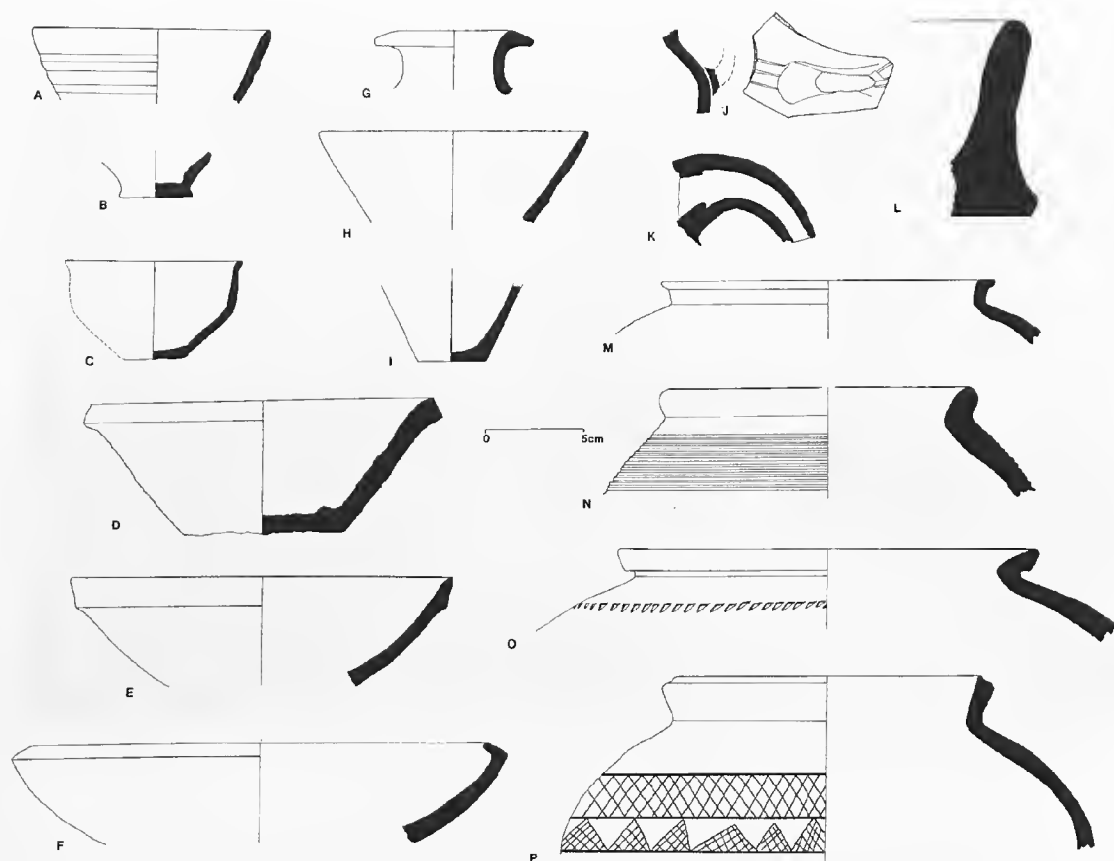


Fig. 11. Uruk ceramics from Tiladir Tepe (A, J), Şadi Tepe (G, K), Komeçlı Höyük (B–C, F, L, N, O), and Kum Ocağı (D–E, H–I, M, P).

identified in a single group on the west bank of the river some 6–9 kilometers upstream of Carchemish. At the center of this agglomeration was Şadi Tepe, the largest and most important of the three. The Uruk settlement at this location was about 8 hectares in extent ( $320 \times 200$  m plus a higher contiguous area of  $100 \times 100$  m) and was established on top of a high limestone ridge rising 40–50 meters above the level of the surrounding plain (fig. 12). It thus occupied a defensible position that is closely comparable to that of Jebel Aruda. Şadi Tepe was abandoned after the Uruk period and numerous beveled-rim bowls and other Uruk pottery types littered its surface (e.g., fig. 11G, K). The chipped stone assemblage was also typical, and included Canaanite-type blades and flake flint scrapers. Like Aruda, Şadi Tepe seems to have been the

locus of an occupation that was possibly administrative in character. This may be surmised from its strategic position over the nearby plain and, more directly, from the presence of bitumen-covered terra cotta wall cones (Algaze 1989a:281, fig. 36, bottom left) and cylindrical pottery drainpipes on its surface, indicating the existence of substantial public buildings.

Flanking Şadi Tepe to the north and south were two further Uruk settlements, each situated on the lowest terrace overlooking the Euphrates floodplain. Each also produced evidence for a full repertoire of Uruk ceramics (fig. 11B–F, H–I, L–P). The largest of the two was Kum Ocağı, about 2 kilometers due south of Şadi Tepe. Unfortunately, Kum Ocağı had already been largely destroyed by a gravel quarry by the time the site was first discov-

ered in 1989, but its extent was still traceable: 6.3 hectares ( $420 \times 150$  m). It could be observed that the settlement was founded on virgin soil and that it was relatively short-lived, since only 1–1.5 meters of deposition were visible in a disturbed section. The second site was Komeçlı Höyük, less than a kilometer north of Şadi Tepe. Like many other sites flanking the Euphrates in the Carchemish-Birecik Dam areas, Komeçlı too has now been bulldozed to make way for a cotton field, but in 1989 it could be observed that the site was about half the size of Kum Ocağı ( $250 \times 110$  m) and was similar in its elongated shape and position along the riverbank. Moreover, it too represented a short-lived occupation, since only about 2 meters of deposition could be observed on the eastern section of the site, which had been cut by the river (Algaze et al. 1991).

The largest Uruk enclave identified in the neighborhood of Carchemish was Tiladir Tepe. The site is roughly equidistant between Carchemish and

Şadi Tepe, but is situated on the opposite (east) bank of the Euphrates at the edge of a steep bluff overlooking the river floodplain (fig. 13). Although much of Tiladir Tepe was overlain by Middle Bronze Age levels, its Uruk-period extent was clear. Numerous beveled-rim bowls and other characteristic Uruk types (fig. 11A, J) eroding from the steep western section of the settlement revealed that all of its 600-meter length was occupied in the earlier period, and scattered Uruk sherds from the site's surface indicate that this occupation extended over much of the 200-meter width of the bluff on which it is located. Tiladir Tepe was thus about 12 hectares in size. About 4 meters of deposits could be observed in the Tiladir section. However, because of later overburden, the Uruk contribution to this depth could not be ascertained (Algaze et al. 1991).

North of Birecik, the Euphrates flows in a narrow gorge for about 100 kilometers or so. It opens



Fig. 12. Şadi Tepe: view from the west.



Fig. 13. Tiladir Tepe: view from the northwest (extent of site indicated by arrows).

again just north of the point where the Atatürk Dam was erected, not far from the ancient Hellenistic/Roman metropolis of Samosata/Samsat (fig. 14). It is here that another Uruk enclave is found. The extent of the Uruk occupation at Samsat has been documented by Özdoğan's survey (1977), which recorded numerous beveled-rim bowls and occasionally other Uruk pottery types eroding from every slope around the circumference of the high mound. At a minimum, this suggests that the Uruk occupation may have extended over the full 17.5 hectares ( $350 \times 500$  m) of the mound. But this does not take into account the possibility of contemporary settlement in the surrounding lower terrace, which was buried by overburden of the classical periods and was never sounded. Uruk levels at Samsat were exposed in a small test trench on the west slope of the mound, and some preliminary observations on the finds can be made on the basis of the available reports. Traces of a fortification wall surrounding the settlement were detected in the trench

(Mellink 1989:114), and it is likely that substantial Uruk (public) architecture existed at the site, since clay wall cones of Uruk type were recovered in the sounding, unfortunately not *in situ*. Some details are known of the associated assemblage, which included numerous beveled-rim bowls (Mellink 1988:110), one typically Mesopotamian carinated jar with a burnished red slip (Özten 1984: fig. 1), and a handful of cylinder seals, at least one of which depicts a row of recumbent animals with heads turned backward within ladderlike filling motifs, possibly representing a fence or net (Özgüç 1987: fig. 8). Although the engraving of the seal appears provincial (H. J. Kantor, pers. comm., 1988), the motif itself is wholly characteristic for Late Uruk glyptic.<sup>7</sup>

Surveys show that several small sites in the vicinity of Samsat produced materials of the Uruk period. In the Atatürk region, however, those materials often occur in sites with mixed indigenous chaff-tempered and exogenous Uruk assemblages.



Fig. 14. The high mound of Samsat: view from the west.

Included in this group are six village-sized mounds in the immediate environs of Samsat and a small occupation near Bozova, some 25 kilometers away (fig. 15).<sup>8</sup> Three of these have not been excavated, and it is thus difficult to say whether they represented newly founded cluster villages surrounding the Samsat enclave, such as those documented in the Tabqa and Bircik-Jerablus areas, or local Late Chalcolithic occupations interacting with Samsat. Those sites that have been excavated, however, clearly appear to represent the latter. The most important of these was Kurban Höyük, which produced an important sequence that helps document changes within indigenous sites in the Atatürk area as a result of the Uruk intrusion. This site will be the focus of detailed analysis in chapter 5. In addition to the sites with mixed assemblages just noted, two further small sites with Uruk materials (Wilkinson 1990a: figs. B6, B26:10–13) have been identified opposite Samsat. Both are situated along the

İncesu, a small east bank tributary of the Euphrates (fig. 15: Sites 15 and 39). Perhaps significantly, neither of these İncesu sites yielded the chaff-tempered Late Chalcolithic repertoire of nearby sites. They may represent part of a cluster of satellite villages surrounding Samsat or, perhaps, may have served as stations aligned with routes from the Samsat area toward the Balikh basin (below). Finally, a further group of three other sites with Uruk and indigenous materials also existed in the northern fringes of the Atatürk region, some 50 kilometers upstream of Samsat.<sup>9</sup> One of these sites, Hassek Höyük, was excavated and proved to be a small isolated Uruk station alongside a river ford. This station too will be described in greater detail below.

*Upper Khabur Enclaves.* Remarkable as the scale of intrusive Uruk settlement on the Euphrates might seem to be, that scale is by no means exceptional.

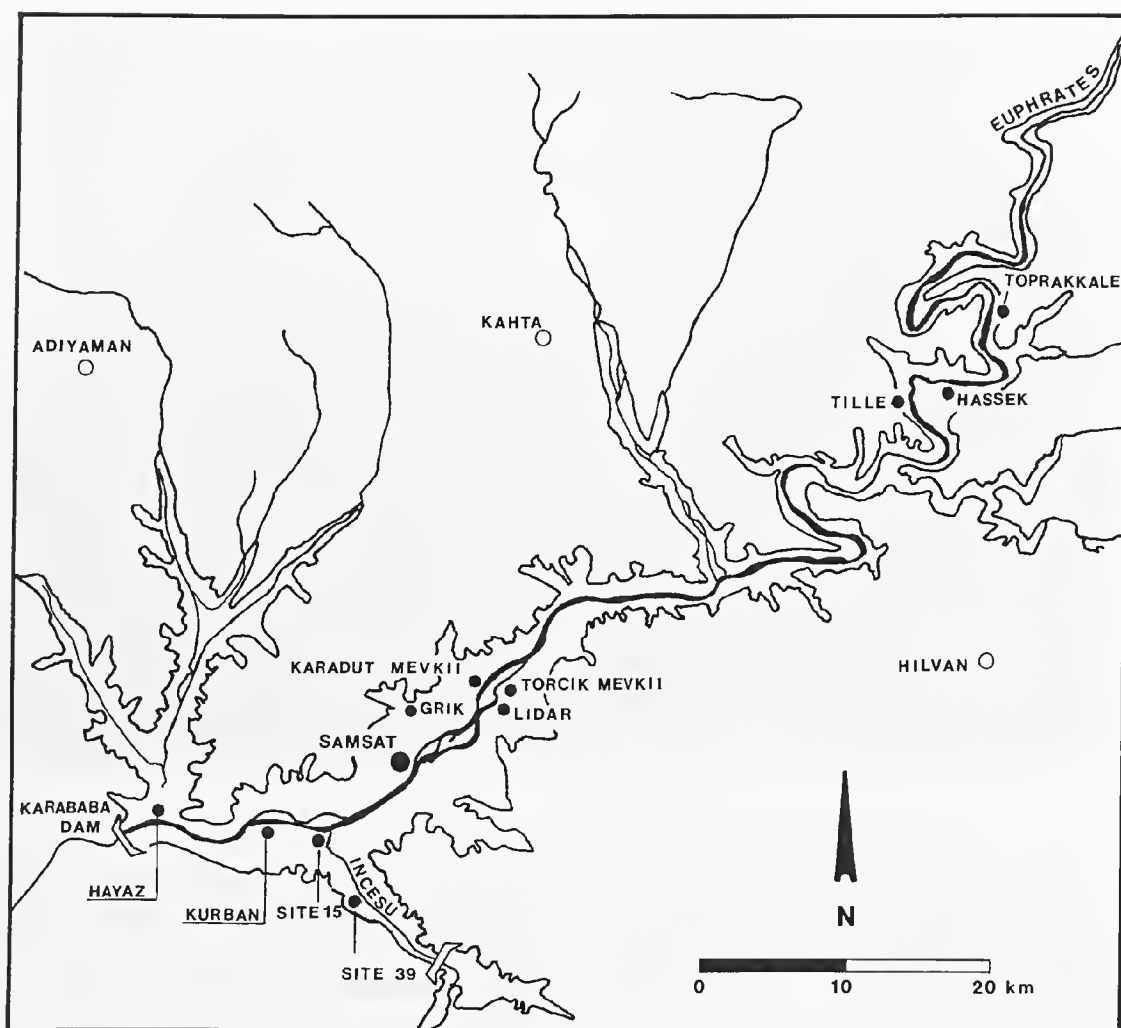


Fig. 15. Southeastern Turkey, Atatürk Dam area: Samsat, Hassek Höyük, and nearby sites where Uruk ceramics have been identified.

This is demonstrated by the results of British excavations and surveys in the Upper Khabur area, where Uruk ceramics are reported to be common at a number of the principal mounds (D. Oates 1977:234), suggesting an intense pattern of contacts with the Uruk world and, possibly, the existence of a number of enclaves. One of those enclaves has been identified at Tell Brak, a large multiperiod mound on the Jaghjagh north of and not far from the modern town of Hassaka. The full extent of the Uruk settlement partially uncovered by Mallowan some fifty years ago at Brak has been

clarified only recently by new British investigations. Their results indicate the presence of Uruk levels over the whole of the site's 40-odd hectares and that the depth of deposits of the period averages some 2 meters across the mound (D. Oates 1982:14). Additionally, the site is surrounded by smaller settlements in which Uruk materials have also been identified. These may represent either an extensive lower city or a number of immediately dependent satellites. In either case, the total size of the Uruk enclave at Brak must have been considerably more than the 40 hectares or so of the site it-



self. Moreover, the Brak enclave was not isolated, since Uruk materials are reported in eleven sites along the lower portions of the Jaghjagh in Syria (Fielden 1981a:261ff.)—a situation directly comparable to that of the Euphrates enclaves already discussed.

*Upper Tigris Enclaves.* The site of Nineveh opposite Mosul on the Upper Tigris seems to have represented a Mesopotamian enclave comparable in both importance and scale to either the Brak or Tabqa examples to the west. The existence of Uruk remains at Kuyunjik, the larger mound of Nineveh, has long been known from the results of Mallowan's deep sounding, where 5–6 meters of deposits of the period were found (Campbell Thompson and Mallowan 1933: pl. LXXIII). That such extensive deposits were not exceptional at the site is now shown by a recent reconsideration of the excavations in the Ishtar Temple area. Central to that reconsideration is the identification of architectural remains uncovered as part of a sizable vaulted-roof building complex, possibly a storhouse (fig. 16). Originally thought by the excavators to represent a series of isolated vaulted tombs of possible third millennium date, this complex can be assigned instead to the Uruk period with some confidence, since beveled-rim bowls were found in the interior of the building at floor level. Even though only portions of two sides were cleared, the scale of this complex was substantial: the building could not have been smaller than the 300 square meters or so exposed and was probably considerably larger (Algaze 1986b). Near this structure were also found portions of another structure of the Uruk period, once again with beveled-rim bowls at floor level. Unfortunately, neither the extent or nature of these remains can be determined from the published report (Algaze 1986b). Nevertheless, the extent of the Uruk occupation at Kuyunjik may be inferred from a number of scattered references throughout the original excavation reports indicating that Uruk deposits, unfortunately of an undetermined depth and nature, were found in several widely scattered areas of the site (Campbell Thompson and Hutchinson

1931:81 n. 2; Campbell Thompson and Hamilton 1932:88–89). Mallowan, in fact, comments that beveled-rim bowls at Nineveh “were deposited over a very wide area from end to end of the city” (1947:222). This suggests that a large proportion of the 40-odd hectares of Kuyunjik may have been occupied in the Uruk period.

While the lack of comprehensive surveys in the vicinity of the site and of excavations on the smaller mound of the Nineveh complex, Nebi Yunus, hamper our overall understanding of developments in the immediate surroundings of Nineveh in the Uruk period, new surveys and excavations in the Eski Mosul Dam area north of the site have revealed what appears to be a pattern comparable to that observed along the Euphrates in the Atatürk Dam area where Samsat is located: a number of apparently local sites showing evidence for contacts with Uruk enclaves in their midst. Most of the pertinent evidence is not yet published, but a preliminary account of excavations in at least two of the Eski Mosul sites, Mohammed Arab and Karana 3, indicates the existence of a locally made ceramic assemblage in which a small number of Uruk types, principally four-lugged jars, are reproduced in association with an otherwise local tradition (Killick 1986; Fales et al. 1987). The same pattern holds further upstream on the Tigris. A recent survey of the Cizre-Zakho plain of southeastern Turkey shows that scattered beveled-rim bowls are commonly found in sites that are otherwise characterized by an indigenous chaff-tempered Late Chalcolithic assemblage (e.g., fig 24; Mehmetçik and Rubaika). Distinctive grit-tempered Uruk pottery types, however, were only recognized at a single site, Basorin Höyük (fig. 24). In addition to beveled-rim bowls and other typical chaff-tempered local types, Basorin yielded a handful of Uruk conical cups and at least one typical ledge-rimmed jar rim (Algaze et al. 1991).<sup>10</sup>

#### The Nature of Uruk Enclaves

In the absence of representative exposures, little can be said about the nature of the Uruk occupation at sites such as Samsat, Carchemish, and the newly discovered Uruk emplacements in the

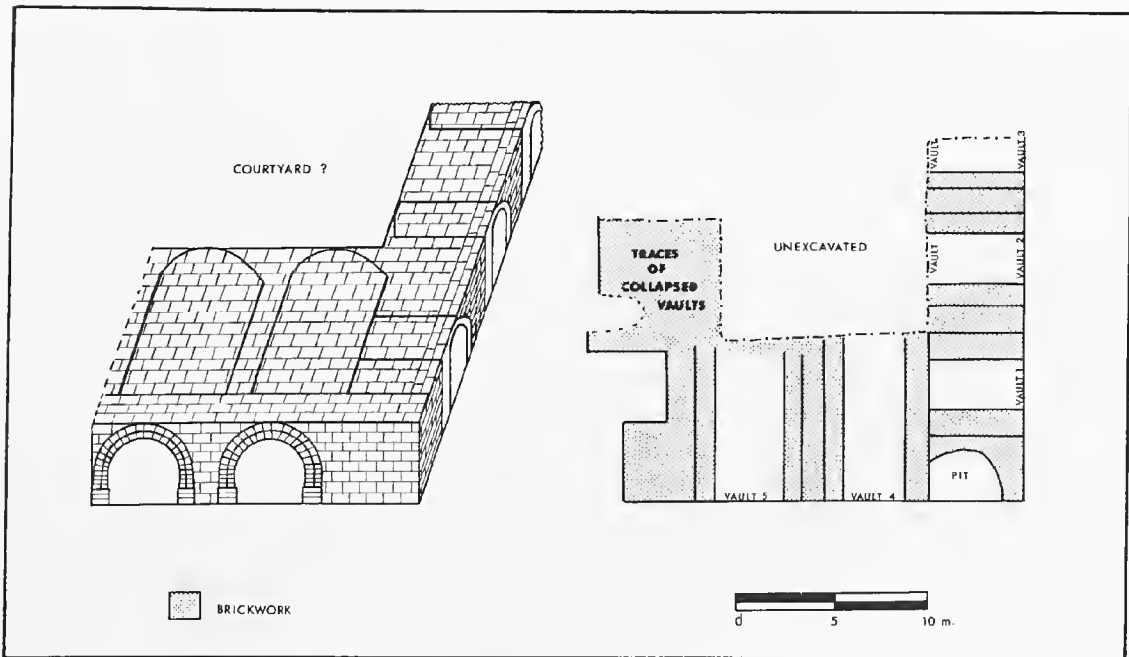


Fig. 16. Plan of the Uruk-period vaulted structure at Nineveh.

Carchemish-Birecik area. However, the evidence summarized above for the Habuba/Qannas/Aruda complex leaves little doubt that at least that settlement cluster represents a colonial outpost of truly impressive urban proportions. Tell Brak and Nineveh would appear to represent something similar (but note Wattenmaker's cautionary comments [1990]). In any event, there can be little doubt that the planners and probably a substantial proportion of the inhabitants of the Tabqa enclave were of southern Mesopotamian origin. This is shown by the familiar southern Mesopotamian architectural plans and construction techniques (Ludwig 1979), diagnostic ceramics and ceramic production procedures (fig. 17A–J), typical small objects, characteristic glyptic practices and iconography, and distinctive accounting and recording systems, including numerical notation tablets and impressed balls (Strommenger 1980a; Sürenhagen 1974/75; Topperwein 1973). This varied evidence is indicative of much more than a process of acculturation. Not only are the structures or the artifacts themselves identical, but more important, the underlying ideology and economy also appear to be identical. The

close parallels in the monumental architecture of the Tabqa Dam sites and similar structures in southern Mesopotamian sites (fig. 17W–Z), for example, are almost certainly indicative of shared administrative practices. No less significant is the shared iconography revealed by the glyptic, which evinces a common mythology and religious beliefs (fig. 17O–V). Finally, the similarities noticed in record-keeping procedures are equally revealing, insofar as they point to the essential uniformity of the economic activities being conducted and of the administrative apparatus in control (fig. 17K–N). In sum, regardless of which of the various estimates discussed for the size of the Habuba/Qannas enclave is accepted, there is little doubt that the apparently rapid transformation of the settlement from a small amorphous village into a well-planned city involved a massive episode of emigration from the alluvium, a veritable case of urban implantation (Schwartz 1988a; Sürenhagen 1986a). The excavators of Habuba-süd, in fact, estimate the population of the site to have been in the range of 6,000–8,000 inhabitants (Strommenger 1980a:34).

The situation at Brak and Nineveh appears sim-

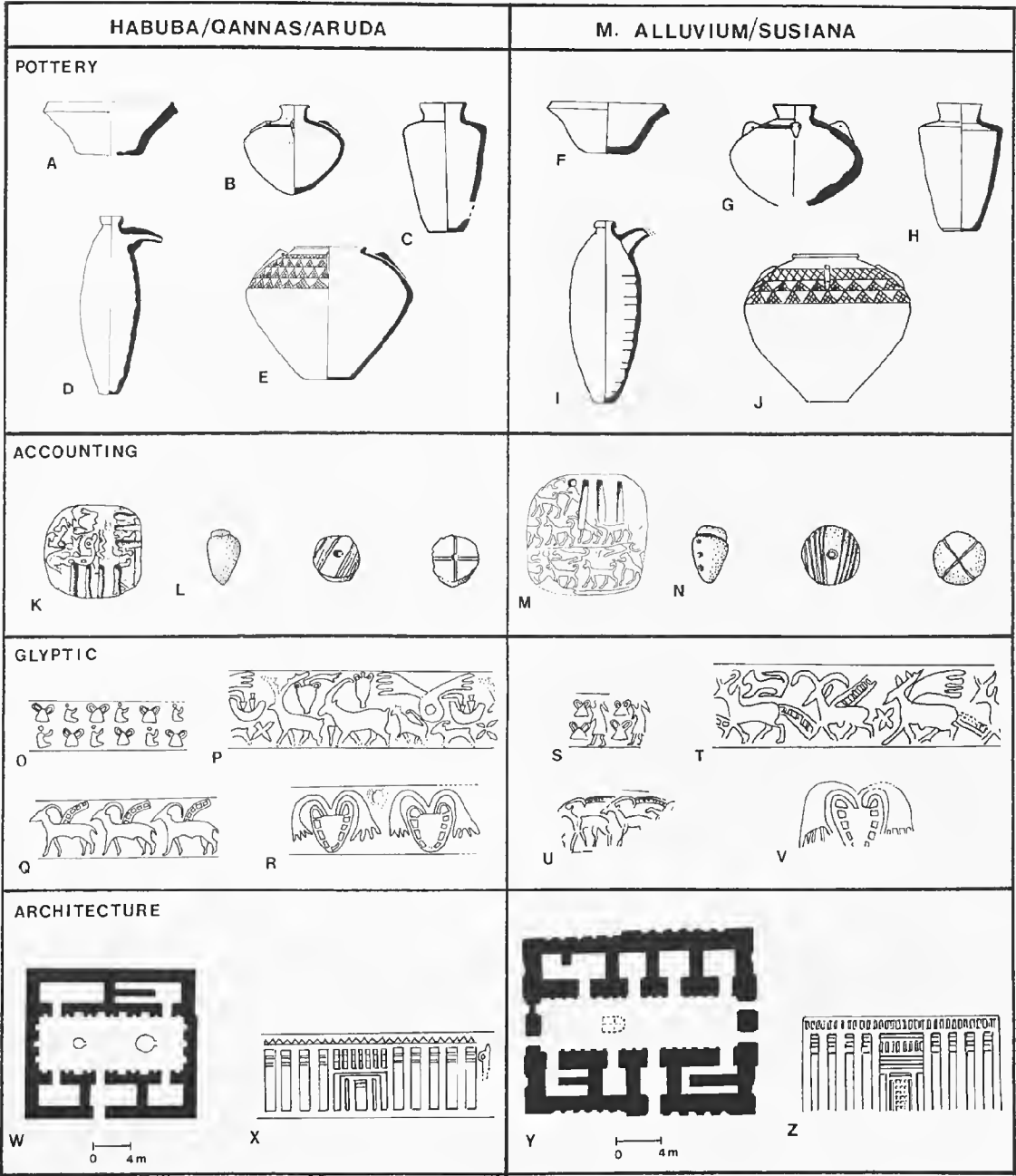


Fig. 17. Selected parallels between the cultural assemblages of the Habuba/Qannas/Aruda cluster and Uruk centers in southern Iraq and southwestern Iran in the Late Uruk period (not to scale unless indicated).

ilar—although available evidence is less comprehensive. A series of monumental structures was uncovered by early British excavations at Tell Brak, all immediately underneath the palace-cum-storehouse of the Akkadian king Naram-Sin. These

structures were originally assigned to the Jemdet Nasr period on the basis of a misapprehension of the chronological range of much of the associated assemblage and of many of the architectural parallels. However, a variety of evidence suggests that

they date instead to the Uruk period.<sup>11</sup> Four separate buildings were distinguished, but only the last, the so-called Eye Temple, was excavated to any great extent. Erected on top of a massive platform formed in part by the compacted remains of immediately preceding structures, this building is of unmistakable southern (Mesopotamian) derivation, in spite of its unique eastern wing (but see Weiss 1985:86–89 for a varying view). Particularly telling are its tripartite plan, buttressed exterior façade, and bent-axis approach (fig. 18A), all typical for Uruk monumental architecture. In fact, the arrangement and dimensions of the Eye Temple's central sanctuary match closely those of contemporary temples in the alluvium, for instance at Warka (e.g., fig. 17Y) and Tell Uqair. Equally close parallels can also be drawn with newly discovered temples at Tell Qannas (fig. 17W) and Jebel Aruda (fig. 6). Moreover, the associated objects are also unmistakably southern in style (Mallowan 1947), particularly the striking frieze of gold, silver, and semiprecious stones found over the Eye Temple podium, the wall cones, wall cone imitation plaques, rosettes and related wall decoration (fig. 18H), many of the amulets (figs. 18G; 38F, I), and some

of the glyptic (fig. 18E). A variety of other artifacts of Uruk type were also recovered at the site, albeit not in context. Included in this category are cylinder seals and impressions (e.g., fig. 18F), an unsealed numerical notation tablet (fig. 18J), two unique pictographic tablets (fig. 18I), and a full repertoire of characteristic Uruk pottery types (e.g., fig. 18B–D).<sup>12</sup>

Like the Tabqa and the Khabur enclaves, Nineveh too has a full complement of material culture typical for the Uruk period, though the contemporary vaulted building already discussed has no known parallels in southern Mesopotamia and represents a northern architectural tradition. Excavations in the Ishtar Temple area yielded a typical repertoire of characteristic Uruk ceramics (e.g., fig. 19A–H), as well as a variety of other evidence showing that glyptic practices, iconography, and accounting procedures at the site were also of southern Mesopotamian derivation. A recently republished bulla found inside a pit full of beveled-rim bowls, for example, bears an impression depicting a lion attacking a pair of bulls standing back to back—a motif exactly paralleled in Uruk glyptic at other sites (fig. 19J).<sup>13</sup> A second impression of

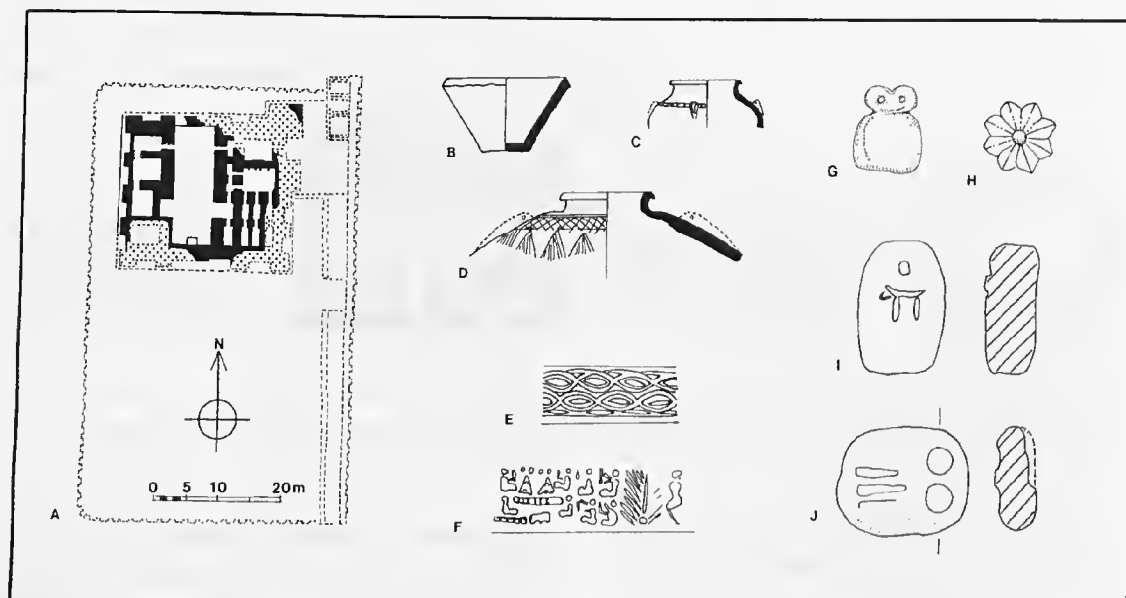


Fig. 18. Selected elements of Uruk culture at Tell Brak (not to scale unless indicated).

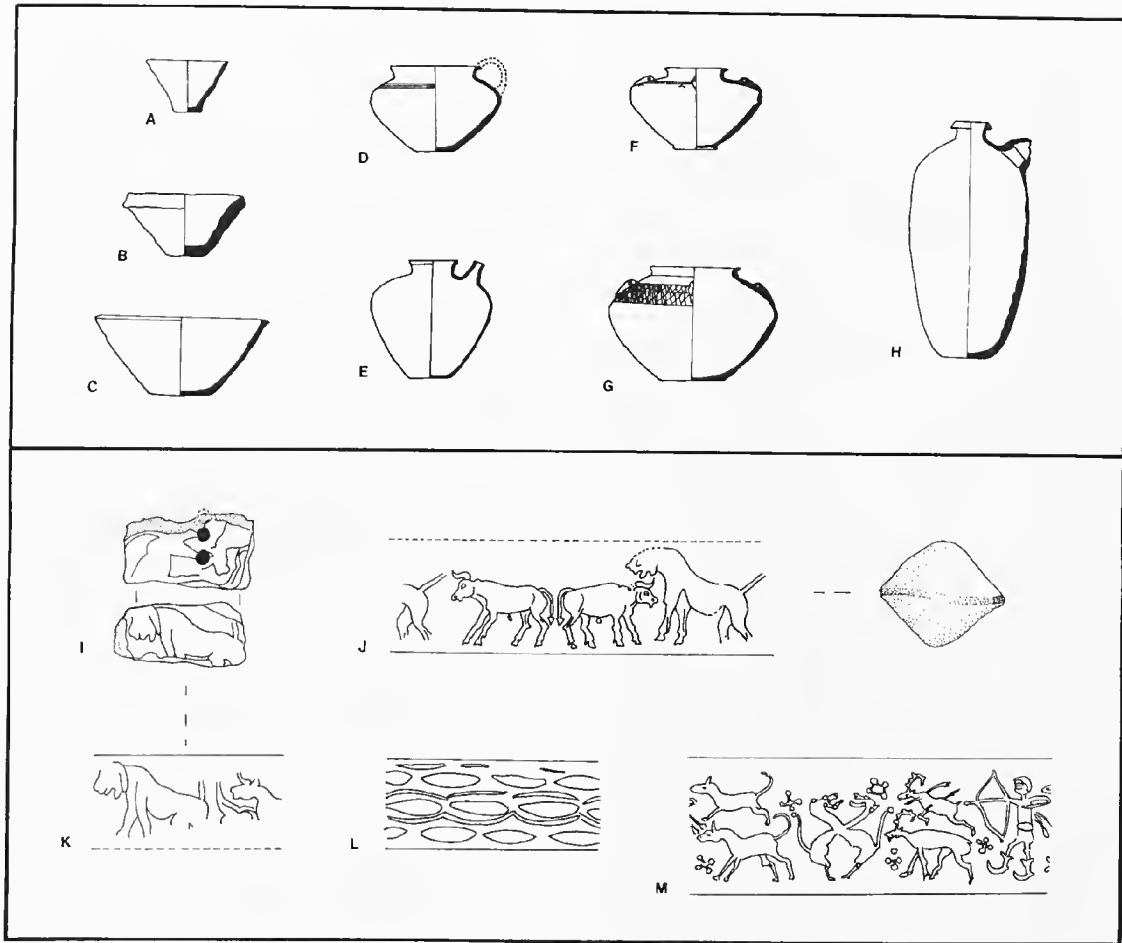


Fig. 19. Selected elements of Uruk culture at Nineveh (not to scale).

possibly the same seal is found on a numerical notation tablet of well-known Uruk type (fig. 19I, K) from an unknown context with Kuyunjik. Also of uncertain provenance but of similar date are two additional cylinder seals found at the site. One is carved in a provincial style and depicts a stag and an ibex pursued by two dogs and a hunter at either side of a pair of lions with crossed necks (fig. 19M). Although as a composition this seal finds no exact parallels elsewhere, specific aspects of its iconography can be paralleled precisely in the corpus of Mesopotamian glyptic iconography of the Uruk period, particularly the hunting scene itself and the animals with crossed necks.<sup>14</sup> The second seal is of a simple geometrical type depicting rows of ovals

possibly meant to represent fishes or eyes, a familiar motif already noted at Carchemish and with numerous parallels elsewhere (fig. 19L, compare also figs. 18E; 27I–J; 29D).<sup>15</sup>

The nature and reliability of available evidence on the Uruk enclaves and associated clusters are outlined in tables 1 and 2, appended to this chapter.

#### THE STRATEGIC RATIONALE OF URUK SETTLEMENT IN SYRO-MESOPOTAMIA

The riverine location of the Uruk enclaves described above would seem to suggest that a crucial factor determining their placement was control of the major rivers. That consideration must have been important indeed, since historically the Tigris and

Euphrates rivers functioned as important arteries for downstream commerce (Finet 1969). However, a detailed analysis of the specific position of the enclaves reveals that they are also oriented along an east-west axis focused on the overland routes of communication across Syro-Mesopotamia. This becomes clear when one compares the specific position of each of the enclaves with what historical evidence is available on the structure of overland routes across the Syro-Mesopotamian plains through the ages. An unusually coherent and extensive corpus of information on international trade and routes of communication exists for most of the Hellenistic, Roman, and Byzantine periods, when Western Asia became in effect a land bridge between Europe and Asia. For those periods it is possible to reconstruct the outlines of the network of overland routes crisscrossing the Syro-Mesopotamian plains. These data afford us a better understanding of what Fernand Braudel (1972) termed the "geographic framework of civilization" in Syro-Mesopotamia and the varying ways ancient societies would have been able to exploit that framework, adapt to it, and, at times, circumvent it. The implicit assumption is that the same constraints that can be shown to have had a significant impact on the historical geography of Syro-Mesopotamia during the classical age were also generally operative in the fourth millennium B.C. Thus, before going on to an examination of the locational circumstances of the Uruk enclaves, it is necessary to review briefly the classical evidence for the structures of communication across those sectors of Syro-Mesopotamia in which the enclaves were established.<sup>16</sup>

#### Overland Routes across Syro-Mesopotamia in the Classical Age

In the classical age, the high plains of Syro-Mesopotamia effectively functioned as the communications hub of the Near East (fig. 20), and the area was crisscrossed by an extensive and well-documented network of routes. The most important east-west routes between the Euphrates and the Tigris were the following (Dillemann 1962; Miller 1962; Poidebard 1934):

1. A northern route crossed the Euphrates either at Zeugma (8 kilometers upstream of modern Birecik) or Samosata (Samsat) and, skirting the southern flank of the Karacadağ/Tur Abdin highlands, headed eastward via Edessa (Urfa), Constantia (Viranşehir), Amuda, and Nisibis (Nuseybin). From Nisibis, two alternate routes are attested. One route continued eastward toward Erbil and the Transtigridian Plains by crossing the Tigris at Bezbade, near Cizre,<sup>17</sup> while the other turned to the southeast and, keeping west of the Tigris, intersected the river in the vicinity of Mosul (fig. 20: Route 2).

2. A central route crossed the Euphrates at either Zeugma or the Europus (Carchemish/Jerablus) area and headed eastward via Carrhae (Harran) on the Upper Balikh and Resaina (Ras el'Ain) on the Upper Khabur. At Resaina three alternative routes are attested. One branch took off northward and joined the northern route already described at Nisibis. A second branch headed due east, crossed the Wadi Khanzir at Chagar Bazar, and eventually joined the Tigris at Mosul, while the third branch proceeded southeastward, intersecting the Jaghjagh in the environs of Brak before crossing the Jebel Sinjar or skirting its southern flank. This route too joined the Tigris at Mosul (fig. 20: Route 3).

3. The southernmost route crossed the Euphrates in the Europus area and proceeded eastward either through Carrhae or Ain el'Arus, both on the Balikh. It differs from the other routes in that it skipped the Upper Khabur basin altogether, keeping to the south of the Jebel abd el-Aziz and the Jebel Sinjar. From the city of Singara on the south flank of the Sinjar range, the route reached the Tigris through one of two possible roads; a northern branch joined the central route mentioned above and intersected the river at Mosul. The other branch cut across the Lower Jezira on a diagonal orientation following the Wadi Tharthar in the direction of Hatra before reaching the Tigris in the neighborhood of Assur (fig. 20: Route 4).

Interspersed with the east-west routes just outlined were a number of north-south routes that clung closely to the rivers. The combination of the

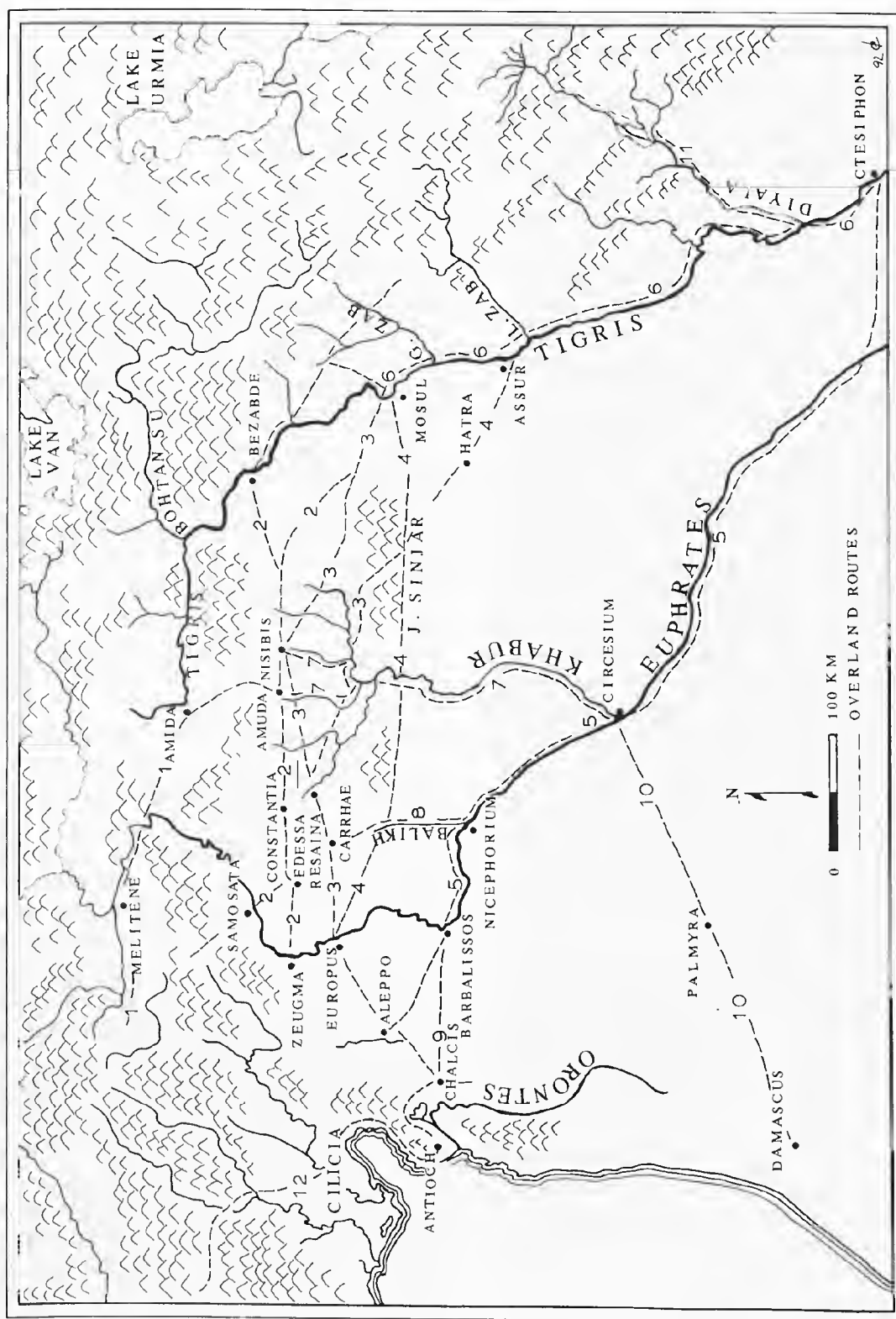


Fig. 20. Major sites and routes of communication in the Near East of the Classical period.

two route systems allowed access between the Mesopotamian alluvium and Syro-Mesopotamia and permitted innumerable permutations in passage throughout the northern plains. The overland north-south route alongside the Euphrates (fig. 20: Route 5) is mapped out in detail in the travel itinerary of Isodore of Charax, who traveled through Parthia along the way to Bactria and China sometime in the late first century B.C. or the first century A.D. (Tarn 1938:53–54). Having crossed the Euphrates at Zeugma, Isodore proceeded eastward toward the Balikh and turned to the south upon reaching that river (fig. 20: Route 8). Downstream from the confluence of the Balikh and the Euphrates, Isodore's route followed closely the course of the Euphrates, first on its left (east) bank down to the confluence of the Khabur and then on its right (west) bank down to the vicinity of Hit, where he crossed the river again and cut across eastward to reach Ctesiphon on the Tigris (Isodore of Charax 1914). Another route is attested by aerial and surface surveys. This route diverged from the Euphrates at the confluence with the Khabur and followed the lower course of the latter river northward up to Hassaka. From Hassaka, a number of subsidiary routes are traceable upward along the various tributaries that form the Upper Khabur watershed (fig. 20: Route 7). Several of the tracks converge on Nisibis, including one along the Jaghjagh where Brak is located. Finally, another subsidiary route leading north from Hassaka is found between the Wadi Awaj and the Wadi Khansir. Skipping Nisibis, it intersected the northernmost of the east-west routes in the vicinity of the Amuda and, crossing the syncline between the Karacadağ and the Tur Abdin massif, headed off northward in the direction of Mardin, Diyarbakır, and ultimately Malatya (fig. 20: Route 1) (Gregory and Kennedy 1985; Poidebard 1934).

Also connecting into the network of east-west routes across northern Mesopotamia were overland routes alongside the Tigris, which complemented those alongside the Euphrates and were clearly as important (fig. 20: Route 6).<sup>18</sup> These joined the principal east-west routes across northern Mesopotamia by means of three preferred fords across the

Tigris: Bezabde, the terminus of northern routes skirting the Tur Abdin; Mosul, historically the most important of the Upper Tigris fords; and Assur, the target of routes across the Lower Jezira and the Jebel Sinjar alongside the Wadi Tharthar (Dillemann 1962; D. Oates 1968).

The network of routes across the northern Mesopotamian plains was by no means a closed system. To the west, access into the Syrian Saddle and through it to southwestern Anatolia and the Levantine coast was possible through a number of fords across the Euphrates (fig. 20). The northernmost of these was Samosata (Samsat), located on the upper elbow of the Euphrates bend. On the middle stretch, where the river flows along a north-south orientation, were Zeugma, the most important of the classical river crossings, and Europus (Carchemish/Jerablus). The last of the classical fords was Barbalissos (Meskeneh), located far to the south in the lower corner of the river bend just where, pushed by the Jebel Bishri, the Euphrates turns sharply eastward and begins its descent toward the Persian Gulf to the southeast (Jones 1971:231–32).

The location of Samosata, Zeugma, and Europus was far from random. All were situated at points along the Euphrates where the network of east-west routes across northern Mesopotamia intersected the river and crossed over into the Syrian Saddle, commonly by means of bridges (Strabo 1966:16.2.3; Wagner 1976: 107–9). Unlike the crossing further to the north, Barbalissos did not connect with any of the principal east-west routes across northern Mesopotamia. Historically, the lower corner of the Euphrates bend represented the natural terminus of overland caravans alongside the river before cutting across the Syrian Saddle in the direction of Aleppo (Dussaud 1931) (fig. 20: Route 9).

To the north, access to the Anatolian plateau, and ultimately the Meander valley and the Mediterranean, was possible through the natural opening created by the Euphrates River as it emerges from the highlands onto the Malatya plain. As will be recalled, an important route from northern Mesopotamia



potamia had Amuda in the Upper Khabur plain as its point of departure and reached Malatya via Diyarbakır (fig. 20: Route 1). To the east, the Iranian plateau could be reached by means of a number of passes across the Zagros. Although more massive than the Taurus, the Zagros range actually represents less of a barrier to communication, since its older and more regular folds are interrupted at more regular intervals and are broken-through by a greater number of rivers. In fact, each of the major east bank tributaries of the Tigris creates one inroad into the highlands (British Admiralty 1917; Levine 1973, 1974a). The most important of these routes was the Khorasan Road, which remains to this day the main route linking Baghdad and Kermanshah (fig. 20: Route 11). This route follows the Diyala River into the highlands and snakes its way upward across the central Zagros through a number of intermontane valleys before emerging onto the Iranian plateau in the vicinity of Hamadan (Levine 1974a).

#### Historical Models and Archaeological Evidence

The preceding discussion on routes of communication and trade in the classical periods is offered as an illustration of possibilities, and as such it is useful in the analysis of the purely archaeological data available on the locational pattern of Uruk enclaves across the Syro-Mesopotamian plains in the late fourth millennium B.C. Before proceeding on to a discussion of the pertinent evidence, however, several points need to be made.

The first point is that a variety of routes are available at any given time and the specific choice of one route over another is governed by two primary considerations: supplies and security. A particular route may be impassable because of depredations of any village, tribe, or state along its course. Alternately, one route may be preferred over another because of logistical considerations. A revealing example of the importance of environmental and logistical constraints on the choice of routes is provided by Alexander's march toward Babylon. Having crossed the Euphrates at Thapsacus on the lower elbow of the Euphrates bend in

Syria in August, at the peak of summer heat, Alexander did not descend along the length of the Euphrates, but rather continued eastward across northern Mesopotamia and turned southward only after having crossed the Tigris. The reasons behind Alexander's "detour" are clearly explained by Arrian (1976:III.7.3), Alexander's later chronicler:

On setting out from the Euphrates [Alexander] did not take the direct route for Babylon [i.e., down the Euphrates], since by going on the other road [i.e., across the Upper Jezira and down the Tigris] all supplies were easy to obtain for the army, green fodder for the horses and provisions from the country, and the heat was less intense.

In the case of exchange, security represents another important consideration. A particularly clear example is provided by the emergence of the Palmyrene region (the northern reaches of the Syrian desert) as a major thoroughfare of east-west commerce in the early centuries of the first millennium A.D. This role appears closely connected with the disintegration of the Seleucid empire under the combined blows of Romans in the west and Parthians in the east, which resulted in most of northern Mesopotamia and parts of northeastern Syria becoming a sort of buffer zone between the combatants. This opened the door for the creation of a number of petty kingdoms in Syro-Mesopotamia, whose depredations made the desert routes across the Palmyrene more attractive (Rostovseff 1972).

A final point is that although the "geographic framework of civilization" limits the range of the possible, and thus shapes human behavior in similar ways over time, political or technological changes may conspire to alter substantially the range of possibilities. A clear example is provided by Roman attempts to bypass Parthian control of overland routes to India and China by tapping into sea routes toward the east out of Egypt and the Red Sea. In so doing, they initiated a process that came to full fruition only later in the Early Islamic period, when navigation displaced long-distance overland trade across Western Asia in terms of economic impor-

tance (Charlesworth 1924; Spuler 1970; Whitehouse and Williamson 1973).

These historical case studies illustrate the complex interplay of geographic, political, and economic factors that ultimately determine something as simple as the selection of one route over another, or even whether an altogether new route is opened along a different orientation. Although specific circumstances must have varied considerably through time, the interplay of factors documented so vividly in historical sources is surely as relevant for the fourth millennium B.C. as it is for the first millennium A.D.

The evidence for the settlement patterns of Uruk enclaves in the Syro-Mesopotamian plains and the relationship of that pattern to the structures of communication of the area will now be discussed in some detail.

#### Uruk Enclaves at Strategic Nodes of the Lines of Communication

The position of the major Uruk enclaves in the north cannot be attributed to chance: each enclave and surrounding cluster commanded a well-attested strategic juncture where the principal routes intersected the rivers. Samsat, for example, controlled the main river crossing point along the road from the upper plains of the Syrian Saddle and the Kurdish Anti-Taurus (Commagene) into northern Mesopotamia via the northernmost east-west route of the classical age. That route followed the valley of the Incesu in the direction of Urfa, and ultimately the Harran plain and the northern reaches of the Balikh and the Upper Khabur (fig. 20: Route 2; and fig. 21). Downstream from Samsat, the Carchemish/Jerablus area represented another of the historical river crossing points and connected the north Syrian steppe and the environs of Aleppo with the northern Mesopotamian plains east of the Euphrates via the central east-west route of classical times (fig. 20: Route 3; and fig. 21). This route led across northern Mesopotamia in the direction of Mosul and the Tigris via the middle reaches of the Balikh (Ain el 'Arus) and the Upper Khabur (Ras el 'Ain). And finally, the Tabqa area in the lower cor-

ner of the great bend of the Euphrates represented the last major crossing point before the onset of the Syrian desert—the traditional terminus of overland caravans alongside the Euphrates before cutting across directly west in the direction of Hama on the Orontes or, alternately, toward the northwest across the Syrian steppe in the direction of Aleppo, the Amanus, and ultimately Cilicia and southwestern Anatolia (figs. 20–21).

Similarly, the location of Mesopotamia enclaves along the Upper Khabur and Upper Tigris basins is also best understood in terms of a strategic rationale designed to ensure control of overland routes of communication. Barely 100 kilometers south of the Jaghjagh headwaters and the mineral-rich highlands in the Diyarbakır region, Tell Brak was well situated to control overland north-south traffic from the Euphrates alongside the Khabur (fig. 20: Route 7; and fig. 21). Traces of a Roman road alongside the Jaghjagh not far from Brak have, in fact, been detected in surveys (Gregory and Kennedy 1985), and there is a Roman *castellum* near the site itself (Poidebard 1934: pls. CXXII–CXXXVIII). However, of equal importance for understanding the location of Brak is the strategic position of the site near one of the few passageways through which it was possible to cross from the Upper Khabur basin into the Sinjar plains to the east without undue difficulty (D. Oates 1977:236). It comes, thus, as no surprise to find that the Uruk enclave at Brak lay at the juncture of the Jaghjagh and one of the main routes across the northern Mesopotamian plains, the one that cut across toward Ras el 'Ain in the direction of the Tigris via the Jebel Sinjar (fig. 20: Route 3; and fig. 21).

Along the Upper Tigris, the placement of an Uruk enclave at Nineveh was also by no means coincidental. Historically, the Nineveh/Mosul area represented the most important of the Tigris fords, and Nineveh was situated at the intersection of the river and several of the main east-west overland routes from the Euphrates via the Balikh, Upper Khabur, and the Jebel Sinjar. Moreover, traditionally the Tigris was an important thoroughfare for downstream navigation. The convergence of these

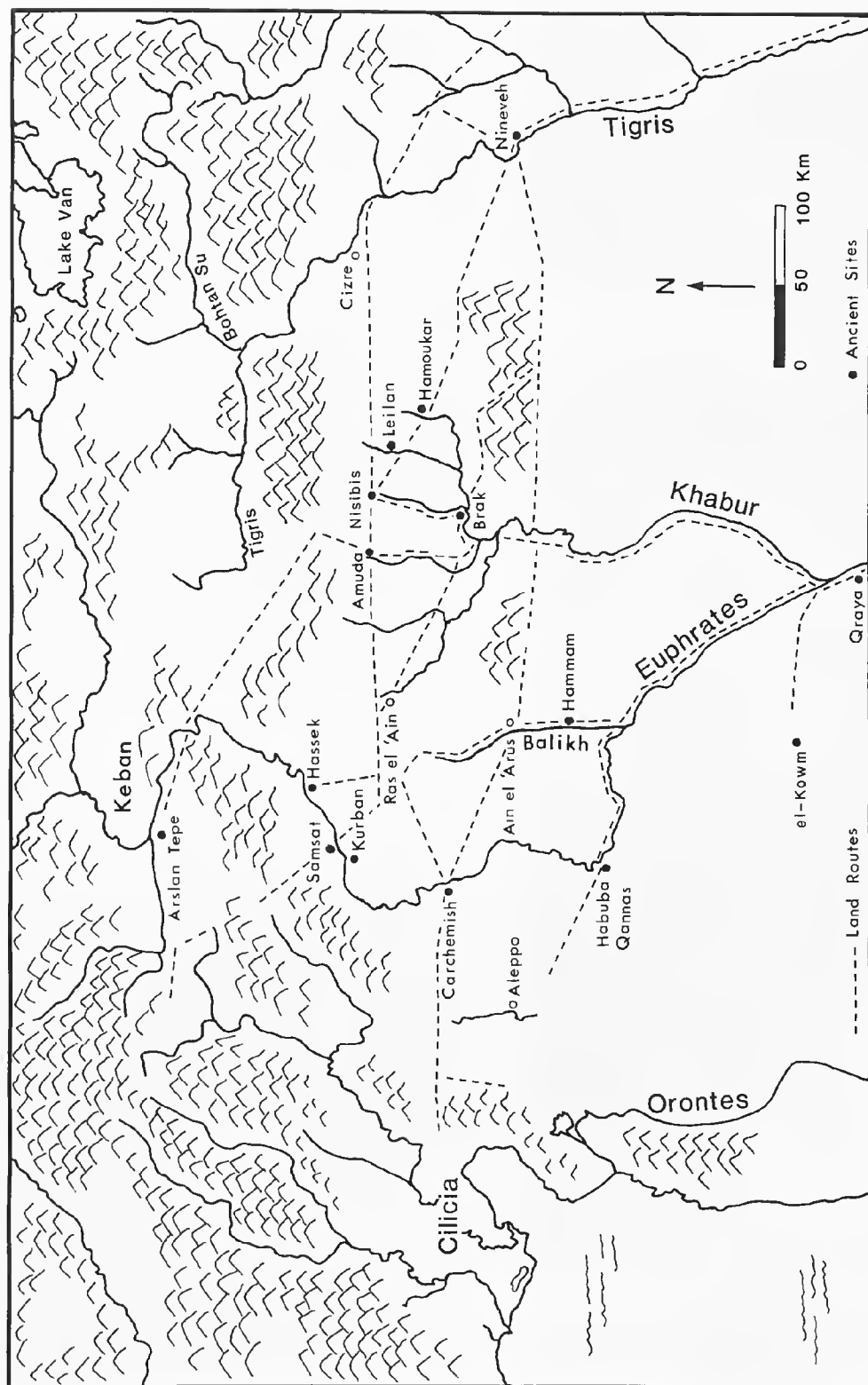


Fig. 21. Major sites and routes of communication discussed in text.

complementary routes made Nineveh an ideal transshipment point where the overland traffic from the west could be easily and cheaply funneled south downstream on the Tigris. In the drier summer months, when the river level was lower and navigation more difficult, routes from the west could join the overland north-south route in and out of the alluvium alongside the Tigris. This route kept to the east bank of the river and crossed it precisely in the environs of Mosul/Nineveh (fig. 20: Route 6; and fig. 21) (D. Oates 1968:21).

#### Uruk Stations along the Lines of Communication

In addition to the strategically located enclaves already discussed, much smaller Uruk outposts or "stations" also existed alongside the principal waterways of the Syro-Mesopotamian plains, which historically constituted the principal means of north-south communication across the area. Downstream from the Habuba/Qannas/Aruda complex along the Euphrates, for example, are found a number of small Uruk sites lining the banks of the river. These sites no doubt represent links along a north-south Uruk route, which precisely parallels later classical routes (fig. 20: Route 5). No pattern is yet apparent in the spacing of the Uruk stations thus far recognized along the Euphrates, but this could well be due to the uneven nature of survey coverage. Four of these occupations were identified by Köhlmeier (1985) in a recent survey of the Euphrates basin between the Tabqa Dam and Raqqa (fig. 22: Sites 99, 96, 55, 1).<sup>19</sup> As these sites are all located on the east bank of the river, it is likely that at least from the juncture with the Balikh northward, the Uruk route followed the left bank of the Euphrates and crossed the river near Meskeneh. Other Uruk stations can be traced on both banks of the Euphrates below the Balikh confluence. One such station was Tell Qraya on the west bank of the river, just north of Ashara (ancient Terqa). About 1.8 hectares in extent, the site is isolated on a bluff overlooking the nearby river valley. At least 3 meters of deposits of the Uruk period were recognized during excavations, which yielded evidence for a wide repertoire of typical Uruk ceramics, small ob-

jects, glyptic, and accounting devices. Excavated remains include portions of at least two rooms, apparently domestic in character, and an open work area with a number of pottery kilns (Reimer 1989; Simpson 1988). Another small Uruk station along the Euphrates route was Tell Ramadi, recently identified in surveys in the vicinity of the ancient city of Mari. The site is located on the same bank of the river as Qraya, but some 50 kilometers downstream, not far from the Iraqi border. It too is isolated on a promontory overlooking the river valley, and on its surface a variety of typical Uruk ceramics were recovered (Geyer and Monchambert 1987:318, figs. 8, 10). Finally, a further Uruk station site is reported about 100 kilometers south of Tell Ramadi on the east bank of the river near Rawa in Iraq (M. van Loon, pers. comm., 1986). Like Qraya and Ramadi, the small site also sits on a bluff overlooking the river (fig. 22). Immediately south of Rawa, however, no further Uruk sites have been documented in surveys of the Haditha Dam reservoir area that covered the 60 kilometer stretch of the river between Ana and Haditha (Abdul Amir 1988).

Feeding into the routes alongside the Euphrates were complementary routes beside the Balikh and Khabur rivers. These can also be traced on the basis of recent survey and excavation evidence. Along the Balikh within modern-day Syria, Uruk ceramics, apparently not in association with contemporary Late Chalcolithic materials, were discovered in three small sites, all near the river (Akkermans 1984) (fig. 22: BS 265, BS 182, BS 35). Since the Balikh often served as a link between the central and northernmost east-west routes across northern Mesopotamia (fig. 20: Routes 2-3) and the overland route in and out of the alluvium alongside the Euphrates (fig. 20: Route 5), it is possible that some or all of these sites represent further stations such as those identified on the Euphrates itself, although none of the sites in question has yet been excavated. Intriguingly, as Akkermans (1988b) has noted, each of these Balikh sites with Uruk remains was situated near a larger indigenous Late Chalcolithic site. Thus, in addition to their hypothesized role as "stations," these small occupations may have also

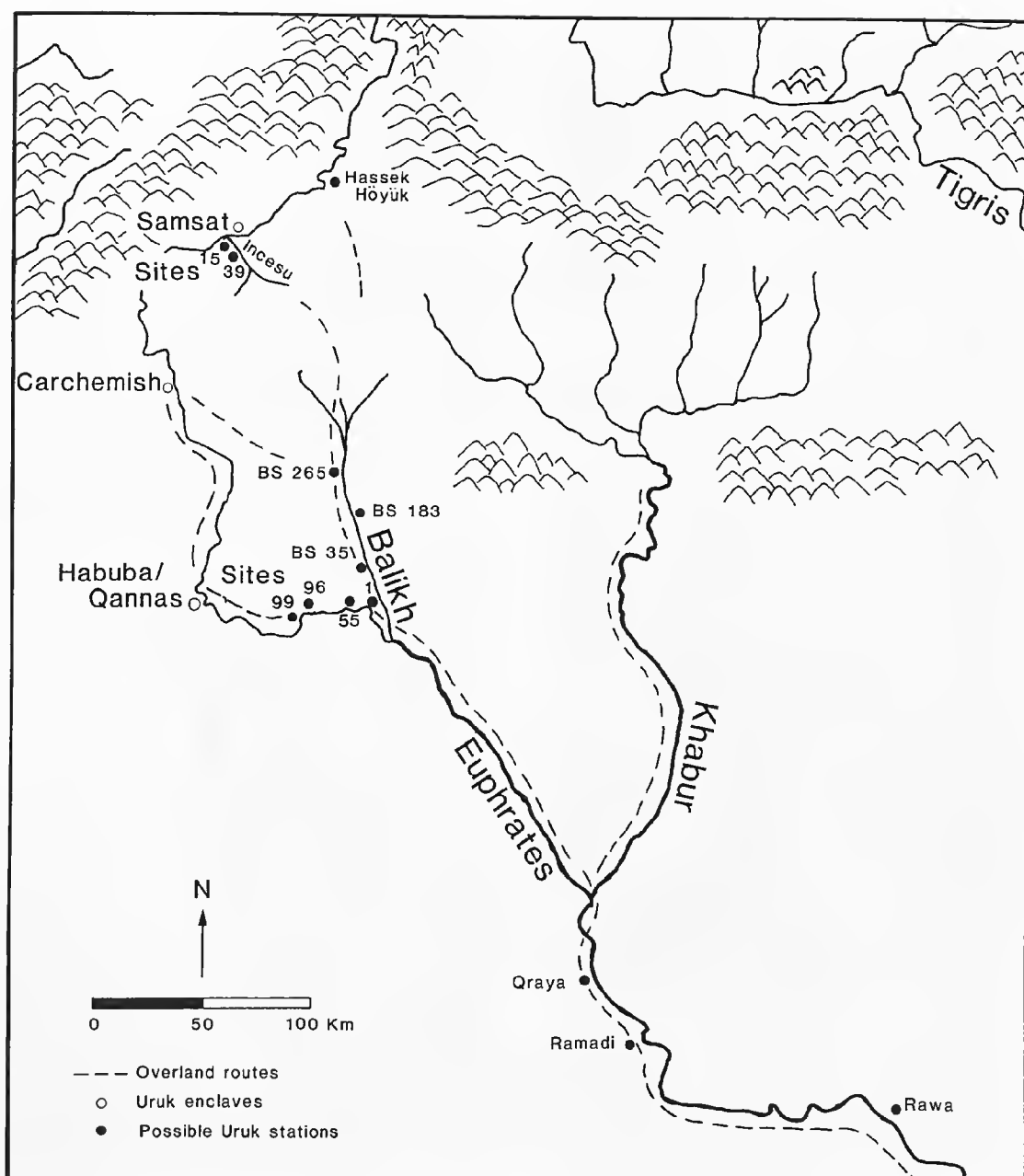


Fig. 22. Possible Uruk stations along the Euphrates and Balikh rivers.

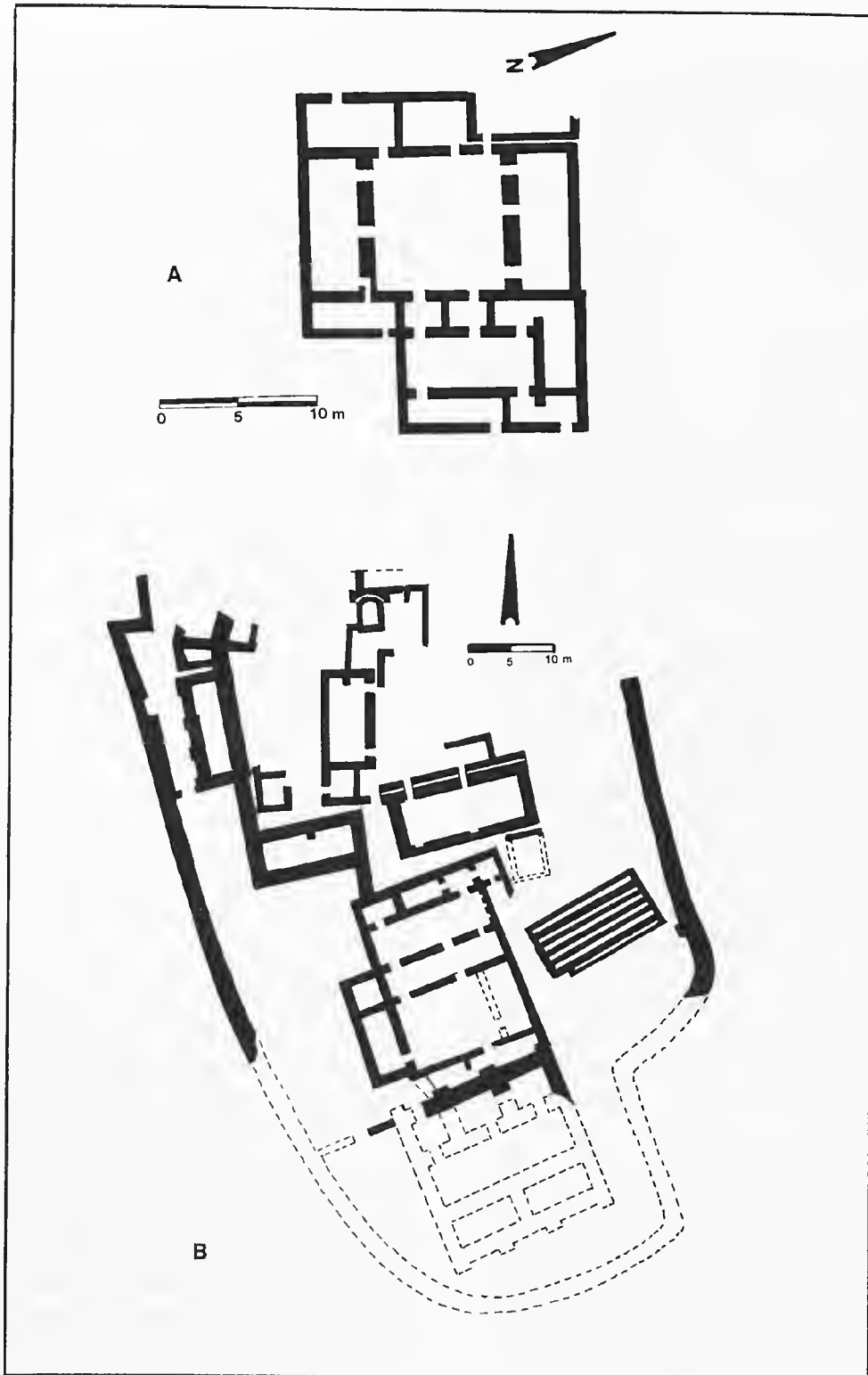
played some role in mediating contacts between indigenous regional centers and faraway Uruk enclaves along the Euphrates and the Upper Khabur. Other Uruk stations aligned toward the Balikh may have existed along the İncesu valley, which, as will be recalled, traditionally served as a corridor from the Samsat area to the southeast. Possible candidates for this role are the two previously discussed small sites with Uruk ceramics near the mouth of the stream opposite Samsat (fig. 22: Sites 15 and 39).

Also oriented toward the Balikh route is an Uruk station uncovered by German excavators at Hassek Höyük, part of the already noted group of sites with Uruk materials along the Euphrates in the northern fringes of the Atatürk Dam region. Situated some 50 kilometers north of Samsat, Hassek controls what must have been and continues to be an important crossing of the Euphrates allowing passage from the Anti-Taurus piedmont into the northern Mesopotamian plains east of the Euphrates (figs. 15, 22). Like the possible Balikh stations in Syria, Hassek Höyük appears to have been relatively small, about 1.5 hectares in extent. As overburden of later periods was light and spatially restricted, comparatively broad exposures of fourth millennium levels were practicable at the site. Those exposures revealed a small fortified settlement, roughly oval in shape, centered around two abutting tripartite houses of the Mittelsaal type (fig. 23B), closely resembling examples from Habuba Kabira-süd (fig. 23A). This composite building was surrounded by a number of monocellular structures, work areas, and grain storage facilities. Like the much larger Uruk enclave in the Tabqa Dam area, the small Uruk station at Hassek was short-lived: founded on virgin soil, it was built largely in a single coherent effort, although some minor modifications and subphases can be traced. Unlike at Habuba, however, where the associated assemblage was purely of Uruk type, at Hassek the Mesopotamian architectural scheme appears in the context of an assemblage in which Uruk artifact and pottery types and indigenous chaff-tempered ceramics are found side by side (Behm-Blancke 1989; Behm-

Blancke et al. 1981, 1984). This assemblage is relevant for issues of chronology and will be discussed in greater detail in chapter 5.

Whether stations such as those already discussed for the Euphrates and Balikh rivers may have existed along the various branches of the Khabur River is less clear. As will be recalled, new British surveys show that Uruk materials are common along the Wadi Jaghjagh and areas immediately to the west, but precise information on the actual number of sites involved, their exact location, their size and configuration, the range of Uruk types found, and the associated assemblage is still lacking. Uruk pottery has also been identified at a number of small sites alongside the various branches of the Upper Khabur east of the Jaghjagh, but there too we lack sufficient information (Meijer 1986:6, 8, fig. 16h-i) (fig. 24).

The situation along the Lower Khabur basin, where Uruk materials are also frequently found, is equally lacking in precision, since pertinent surveys and excavations have only been preliminarily published. However, at least four, and possibly five, sites with some Uruk pottery have been identified within the area to be flooded by the Hassaka Dam (fig. 24: Sites 1, 7, 26, 40, and 58).<sup>20</sup> Perhaps significantly, those sites are found in pairs facing each other at opposite banks of the river. One of the east bank sites, Umm Qseir, has been excavated. Preliminary reports indicate that it represents a small occupation about 0.5 hectares in maximum extent. Because of later disturbances, no coherent Uruk-period structures were recoverable. However, a full assemblage of Uruk ceramic types has been identified (Hole and Johnson 1986/87; F. Hole, pers. comm., 1991). Further downstream, Uruk materials are also reported in two other sites, Tell Ahmar-south and Tell Fadgami (Röllig and Kühne 1977/78:125-26) (fig. 24). Moreover, scattered beveled-rim bowls and an Uruk strap-handled cup have been recovered in what seems to have been an ephemeral pastoral encampment along the nearby Wadi 'Agig (Pfälzner 1984:182, fig. 76:3-4). Of these sites, Tell Fadgami, a small site located on the east bank of the river some 60 kilometers south of Hassaka, is



*Fig. 23. Plan of Mittelsaal-style house from Habuba Kabira-süd (A) and of Uruk settlement at Hassek Höyük (B).*

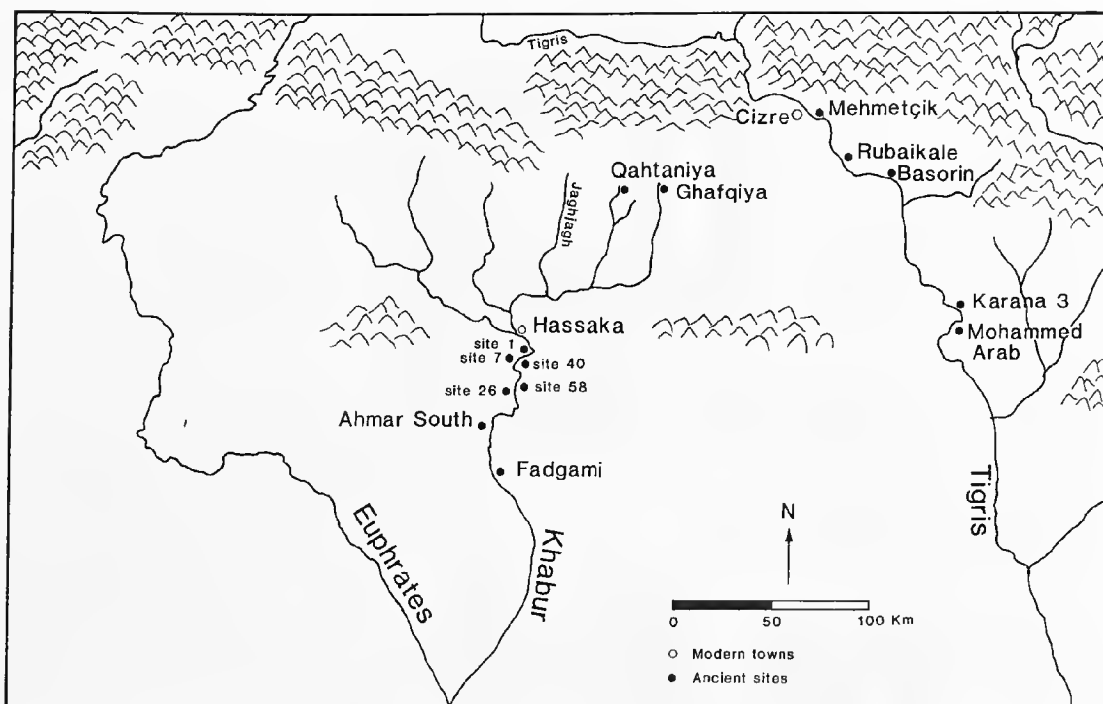


Fig. 24. Possible Uruk stations along the Khabur River and Late Chalcolithic sites in the Upper Tigris basin where Uruk materials have been found.

perhaps the best candidate for a Mesopotamian station in the area. This is suggested by two factors. The first is that numerous beveled-rim bowls and a wide variety of classic Uruk ceramic types were recognized on its surface (Röllig and Kühne 1977/78:125–26; Johnson 1988/89:601 n. 1). The second is that Fadgami occupies a choice location (Musil 1927:85): it lies at the intersection of the overland Roman north-south route alongside the Khabur (fig. 20: Route 7) and the southernmost east-west route (fig. 20: Route 4) from the Euphrates to the Tigris noted above.

However important the overland route alongside the Euphrates may have been, it seems certain that the Tigris route was at least of equal importance. This is demonstrated by the presence of an Uruk enclave in the Nineveh/Mosul area, historically the most important of the Upper Tigris fords. Moreover, as previously noted, a small variety of Uruk ceramics have also been reported at a number of sites along the Tigris north of Nineveh within

Iraq and in at least one site within southeastern Turkey (Basorin). These sites are situated along a traditional route from Mosul to Cizre which deviated from the Tigris north of the Eski Mosul area and reached the Cizre region only after crossing the (eastern) Khabur River in the vicinity of Zakho (British Admiralty 1917: Route 90). This evidence suggests a measure of interaction and communication that is compatible with what would be expected if other Tigris fords north of Nineveh/Mosul were to have been in use in the Uruk period. In fact, save for the Habuba/Qannas/Aruda enclave, the location of the Mesopotamian enclaves thus far identified in the north can be easily explained in terms of ties to the Tigris route. The Carchemish/Jerablus area and Samsat, it will be remembered, were not only oriented toward north-south routes alongside the Euphrates (via the Balikh) but were at the same time also the terminus of important east-west routes from the Tigris. Similarly, Brak was also a critical node in east-west routes to the Tigris. In short,



whatever other connections they may have afforded, Carchemish and surrounding sites, Samsat, and Brak also formed part of a network of routes whose terminus was Nineveh on the Tigris.

Whether or not other Uruk enclaves and stations may have existed along the east-west overland routes away from the more intensively surveyed rivers can neither be confirmed nor discounted at this point and must remain a subject for future research. To be sure, a number of surveyed sites located along east-west routes crisscrossing the Sinjar plains of northern Syria and northern Iraq have produced some evidence for a limited number of Uruk ceramic types on their surface, and potentially at least some of these sites could represent further Uruk emplacements. However, the majority of such sites were certainly local. Excavations at a variety of Late Chalcolithic sites across the Syro-Mesopotamian plains show that isolated Uruk traits are not uncommon within assemblages that are otherwise wholly indigenous (below, chap. 4). Such traits are best interpreted as evidence for contacts and exchange between indigenous and Uruk societies, contacts that no doubt were mediated through the Uruk enclaves and stations across the north.

Tables 1 and 2, appended to this chapter, summarize the location, orientation, and associations of the Uruk stations thus far identified and outline the nature and reliability of available evidence for them.

#### URUK OUTPOSTS IN THE PERIPHERY

Outside the geographical horizon of the Syro-Mesopotamian plains delimited by the Tigris and Euphrates river basins, which constitutes in effect the core area of Uruk settlement in the north, large urban enclaves and associated clusters are no longer found. What are found, occasionally, are much smaller isolated outposts located also at critical junctures of the overland routes of communication, in this case those feeding in and out of Syro-Mesopotamia and Khuzestan. These outposts are characterized by a broad range of typical Uruk material culture elements. In terms of size and because of their isolated position in the midst of indigenous

communities, they are similar to the Uruk stations thus far recognized, particularly those alongside the Euphrates.

Certainly two and possibly three such outposts have been recognized to date. The two certain cases are in the Iranian highlands, Godin Tepe and Tepe Sialk, while the possible case is in the Palmyrene, a small site in the el-Kowm oasis (fig. 21). Of the Iranian sites, the clearest case is Godin Tepe. The site is strategically located in the southeastern corner of the Kangavar valley, near a natural entrance cut by the Gamas Ab River. On its highest point, a small fortified outpost (fig. 25) of the Uruk period (Godin V) has been excavated. Surrounding this fort was a larger indigenous settlement (Godin VI). The fort itself was built in a non-Uruk style that conformed to local highland canons, and a significant proportion of the pottery contained within was also of local style and manufacture (about 50%). Nevertheless, a wide range of typical Uruk artifacts was found within the structure. These included a variety of ceramic types (fig. 26A–E), glyptic (fig. 26F–G), and numerical notation tablets (fig. 26H–I), all in styles typical for the very end of the Uruk-period sequence as presently understood (Weiss and Young 1975; Young 1986). These intrusive Mesopotamian elements and the commanding position of the fortified structure in which they were found have been interpreted to signify the presence of actual foreigners at the site, presumed to be merchants from Susa by the excavators (Weiss and Young 1975), although their exact provenance remains debatable (Young 1986:220–21). What is unquestionable is that whoever held the fort at the very top of the Godin mound controlled also an important link along the Khorasan Road, which allowed access from the Diyala valley into the Iranian central plateau and points eastward (fig. 20: Route 11; fig. 30). The Uruk fort at Godin appears to have been isolated within the Kangavar valley, since intensive surveys of the valley have failed to produce evidence of further outposts, although isolated beveled-rim bowls have been found in at least three nearby sites (Young 1986:218). Nevertheless, it is likely that outposts similar to Godin may have ex-

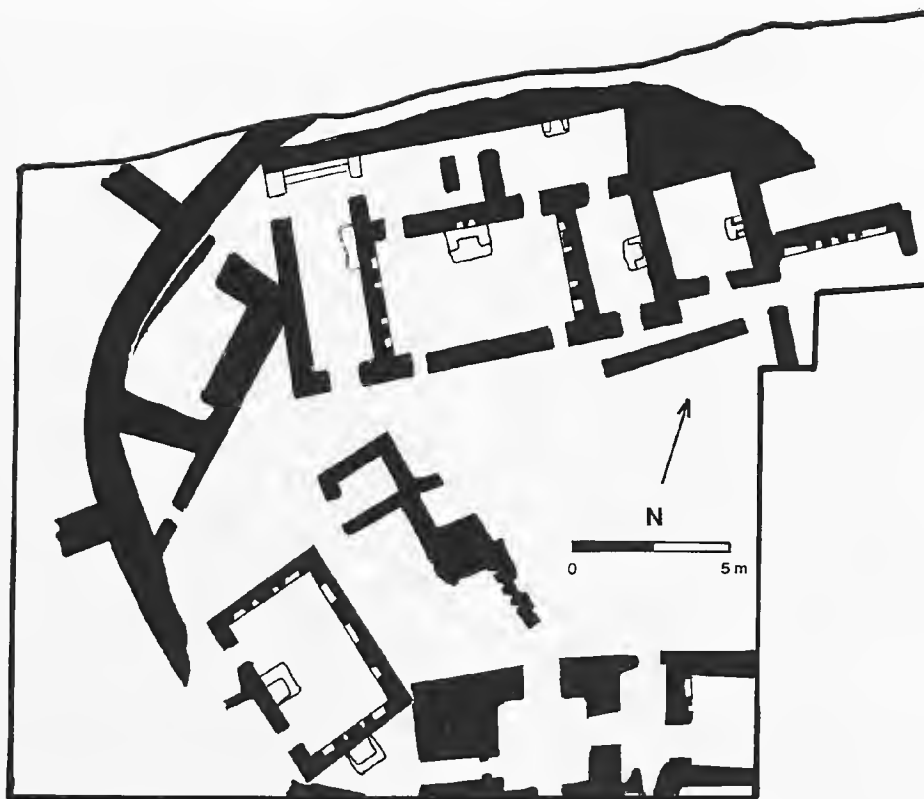


Fig. 25. Plan of the Level V "Fort" at Godin Tepe.

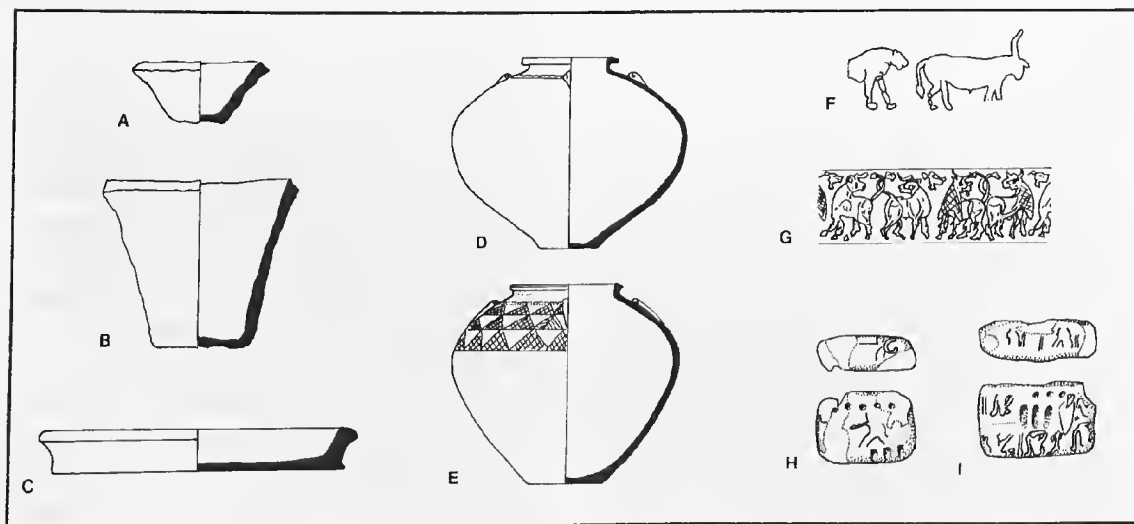


Fig. 26. Selected elements of Uruk culture at Godin Tepe (Level V) (not to scale).

isted elsewhere along the Khorasan Road. Three sites identified in a survey of the Mahidasht valley (west of Kangavar and closer to the Diyala headwaters), for example, yielded numerous beveled-rim bowls, which apparently constituted a sizable proportion of the total recovered assemblage (Levine and Young 1987:40; Young 1986:219).<sup>21</sup>

Farther into the Iranian plateau, just between the inner folds of the Zagros and the edge of the Dasht-i Kavir, near the modern town of Kashan, is another Uruk outpost similar in many respects to that identified in the Kangavar valley. Established at the top of the southern mound of Tepe Sialk in a position that mirrors closely that of the Godin fort, this second outpost may be recognized in the earliest of two phases assigned to Period IV at the mound (IV.1) and is represented by a well-built structure that was only partially exposed (Ghirshman 1938:58–59, pl. LX; Amiet 1985).<sup>22</sup> As at Godin, a variety of typical Uruk pottery was found (e.g., fig. 27B, E–H). Also recovered were equally characteristic small objects (e.g., fig. 27A), cylinder seals (Fig. 27J–L), cylinder seal impressions (e.g., fig. 27I),<sup>23</sup> and numerical notation tablets (e.g., fig. 27M).

Because of the restricted exposures that were

practicable in the south mound of Sialk, it cannot be ascertained whether or not the outpost at this location was surrounded by an indigenous settlement, as was the case at Godin. On the contrary, in the published reports, the earliest Sialk IV.1 structures postdate the latest Period III level (7) and the two strata are separated by a thick ash destruction layer (Ghirshman 1938: pl. XLIX). However, if excavations at Godin had explored only the acropolis sequence and not the nearby mound, it would have been logical to conclude that Godin V wholly postdates Godin VI, a demonstrably false assumption. The possibility that Sialk IV.1 too may have been partially contemporaneous with an indigenous settlement in its immediate vicinity is raised by the presence of typical Period III pottery within Period IV.1 structures and burials (Amiet 1986:307–8, figs. 9–11). This precisely parallels the situation within the Godin V fort, where local ceramics were found in association with Uruk types. In brief, the varied evidence for a range of typical Uruk materials at Sialk IV.1 is indicative of its function as an outpost like Godin. This conclusion is reinforced by the location of the site. Like Godin, Sialk is strategically situated at a position commanding an important route across the Iranian central plateau, in

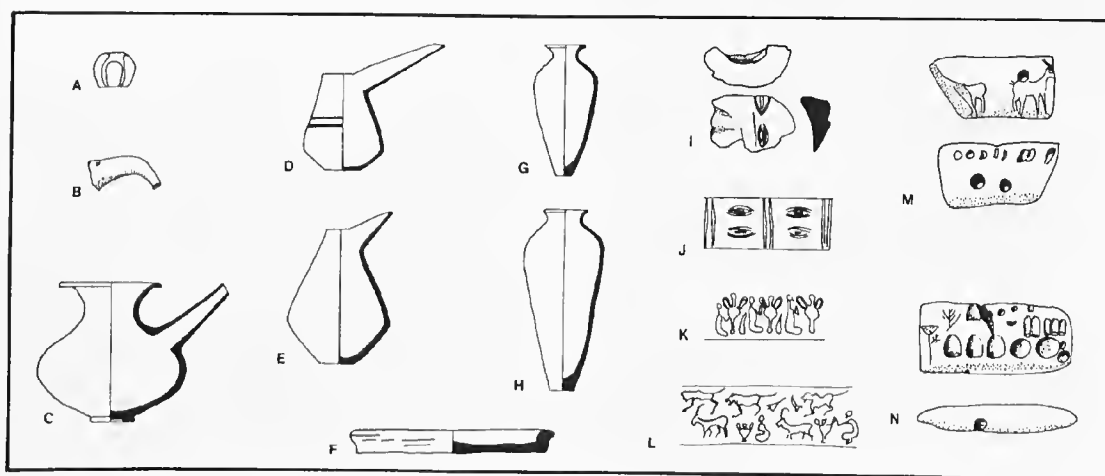


Fig. 27. Selected elements of southwest Iranian Uruk culture at Tepe Sialk: Periods III.7 (C, D, F, K) and IV.1 (A–B, G–J, L–N) (not to scale).

this case the principal north-south route from Afghanistan to Khuzestan (Majidzadeh 1982). This route diverges from the Khorasan Road in the Rayy plain near Tehran and, after crossing Isfahan, emerges in eastern Khuzestan via passes across the southern Zagros (fig. 1).

Also strategically situated is the only Uruk outpost yet identified in Syria away from the Euphrates basin, a small site (el-Kowm 2 Caracol) in the Palmyrene area, where a broad range of Uruk ceramics has been recovered (Cauvin and Stordeur 1985). The site is situated within the el-Kowm oasis, which is a natural stopping point along the traditional caravan route that crosses the northern reaches of the Syrian desert and allows passage (via Palmyra) from the Middle Euphrates to the Orontes and points beyond (fig. 20: Route 10; fig. 21). The el-Kowm outpost is therefore well placed along what must have been an important thoroughfare. However, the Uruk occupation at el-Kowm seems fundamentally different from those already described in the Iranian highlands. One difference is that few traces of structures have been identified and that the small settlement does not appear to have served as much more than a temporary encampment. More important, el-Kowm 2 differs from the Zagros outposts in that it lacked seals and seal impressions, balls, bullae, tablets, and other artifacts implying participation in regional and long-distance exchange.

The nature and reliability of available evidence on the Uruk outposts thus far recognized is outlined in tables 1 and 2, below.

#### THE CHRONOLOGY OF URUK SETTLEMENT IN THE PERIPHERY

##### Enclaves

Within the geographical horizon of the Syro-Mesopotamian plains and in terms of their control of the structures of communication and transportation of the area, the urban-sized Uruk enclaves and associated stations effectively constituted nodes in a "network" of surprising breadth. The growth of the network was surely organic, although our under-

standing of pertinent chronological data is not yet sufficient to disentangle its details. Nevertheless, its apogee and eventual collapse may be correlated with developments in the Mesopotamian alluvium and Susiana by means of the glyptic and epigraphic evidence from sites such as Habuba-süd/Qannas, Jebel Aruda, Nineveh, and to a lesser extent, Tell Brak. Although existing chronological sequences are not always representative or entirely comparable, the cylinder seals and seal impressions, balls, bullae, and the characteristic numerical notation tablets and complex tokens found in the northern enclaves have a restricted chronological range that can be established in reference to Uruk-period sequences at sites such as Warka and Susa.<sup>24</sup> These parallels suggest a date about the end of the Uruk-period sequence as presently understood for the apogee of the network, roughly equivalent to Levels VI-IV of the Eanna sequence of Warka and Levels (19?)18-17 of the more reliable Acropolis I sequence at Susa (Strommenger 1980b:486; Nissen 1986b:328).<sup>25</sup> If we presume that accounting procedures in the peripheral enclaves would have reflected contemporary practices at the core, the collapse of the network may be dated using the same categories of evidence. Aside from the two unusual and otherwise unparalleled tablets from Brak with a single pictogram (Fig. 181), the general absence of pictograms in numerical notation tablets recovered in the northern sites (minimally at Habuba, Aruda, and Nineveh) suggests that the abandonment of the network predates the latest subphase of the Uruk period in the alluvium, Eanna IVa, when the earliest of the Archaic Tablets appear (Nissen 1986b).

However, not all the enclaves need have undergone the same explosive growth that may be documented for the Habuba/Qannas/Aruda settlement. Some may have been established earlier in the Uruk period and grown over a longer period of time. This is apparent even in the Tabqa area. Recent and continuing excavations at Tell Sheikh Hassan have revealed a superimposition of at least eighteen distinct Uruk levels (Boese 1986/87), suggesting a southern Mesopotamian presence in the Tabqa region that significantly predated the Habuba/Qannas/

Aruda emplacements directly across the river. Moreover, some of the Uruk enclaves elsewhere also had fairly long sequences. The clearest cases are Brak and Nineveh, although a fair depth of Uruk deposits can also be inferred for Carchemish. The so-called Eye Temple at Brak, it will be recalled, was only the last of four apparently similar structures in the very same spot. It is certain that even the earliest of those structures ("Red Eye Temple") dates to the Uruk period, since beveled-rim bowls were found in direct association (Mallowan 1947:222). These structures must have been situated on the acropolis of the mound, and their sequence spans at least 6 meters of deposits (Mallowan 1947:50). What exactly the depth of Uruk-period deposits outside of the Brak acropolis was is unknown, but as noted above, recent British surveys suggest an average thickness of about 2 meters across the mound. Similarly, judging by the incidence of beveled-rim bowls in the section, the deep sounding at Nineveh shows that possibly 5–6 meters of deposits of the Uruk period existed at the site (Campbell Thompson and Mallowan 1933: pl. LXXIII). At Nineveh, however, there are no indications in the published material of the functional nature of the area cut by the deep probe.

#### Outposts

Intriguingly, while some of the urban-sized enclaves in the Syro-Mesopotamian plains evolved over a significant span of time, the much smaller isolated outposts found farther away in the periphery appear to have a much more restricted chronological development, which coincides only with the floruit of the enclave network and could possibly be later. Little can be said about the el-Kowm outpost, as its function is uncertain and only ceramics were recorded.<sup>26</sup> However, greater precision is possible in the case of the Iranian outposts, as both Godin (V) and Sialk (IV.1) produced a broader range of evidence. Particularly important from a chronolog-

ical standpoint are the convex, cushion-shaped numerical notation tablets found in each of the two sites, which date to the very end of the Late Uruk sequence at Susa. With but a single exception inscribed with a pictogram (fig. 26I), the Godin tablets are impressed only with wedge- and dot-shaped numerals, and some bear in addition rollings of a single cylinder seal of Uruk style (Weiss and Young 1975:8–9, figs. 4–5). Identical tablets are also found at Sialk (e.g., fig. 27M).<sup>27</sup> These tablets correlate wholly with examples from Susa that are found only in Level 17 of the Acropolis I sequence (Le Brun and Vallat 1978:30). However, like the one tablet from Godin, some of the Sialk tablets (e.g., fig. 27N) also bear isolated pictograms which place them typologically later than the Susa Level 17 tablets (Amiet 1986:68).<sup>28</sup> The possibility does exist, then, that the occupations of Godin and Sialk could postdate Susa Level 17. However, there is no need to correlate those occupations with the Proto-Elamite period at Susa and the Jemdet Nasr period in the neighboring alluvium, since the one tablet from Godin and the few from Sialk bearing isolated pictograms are definitively earlier than the distinctive Proto-Elamite A administrative tablets of Level 16 at Susa and Period IV.2 at Sialk. Moreover, as Dittmann (1986b:171) has recently argued, the latest subphase uncovered in the Acropolis I sounding at Susa (Level 17A) does not necessarily represent the end of the Uruk-period occupation of the site, but rather a shift in settlement away from the exposed structures, which were left to collapse (cf. Le Brun 1971:210–11). A later occupation predating the Proto-Elamite period is thus likely to have existed, although it is yet to be isolated stratigraphically in the Susa sequence. It is with this ill-defined subphase that the Godin V and Sialk IV.1 occupations should be correlated.<sup>29</sup>

But what was the purpose of the Mesopotamian enclaves, stations, and outposts across the periphery? It is to this question that I turn in chapter 4.

TABLE 1. Types of Uruk Settlement in the Mesopotamian Periphery

Site	Settlement Type	Associated Stations (figs. 22, 24)	Surrounding Cluster (figs. 7, 8, 15)	Size (in ha)	Location	Orientation (fig. 20)	Regions Accessible	Resources Accessible
Habuba/Qannas/Aruda	Enclave	Site 96 Site 99 Site 55 Site 1 Qraya Ramadi Nr. Rawa	5 sites certain, 3 sites possible	18-40	Euphrates Euphrates Euphrates Euphrates Euphrates Euphrates	N-S, Route 5 W, Route 9	Syrian Saddle Cilicia	Amanus wood; Bolkardağ minerals, Malatya wood, Keban/Altinova metals
Carchemish area: Tiladir Tepe, Kum Ocagi, Şadi Tepe	Enclave	BS 265 BS 183 BS 35	18 sites	28 +	Euphrates Balikh Balikh Balikh	N-S, Route 5 E-W, Route 3 N-S, Route 8	Syrian Saddle, Northern Mesopotamia, Anatolian highlands	As above
Samsat	Enclave	Hassek Site 15 Site 39 BS 265 BS 183 BS 35	6 sites	17.5?	Euphrates Euphrates Incesu Balikh Balikh Balikh	N-S, Route 8 E-W, Route 2	Anatolian highlands, Northern Mesopotamia, Syrian Saddle	Malatya wood, Keban silver, Ergani copper
Tell Brak	Enclave	Fadgami? etc.? Qraya Ramadi Nr. Rawa	11 sites?	43 +	U. Khabur L. Khabur L. Khabur Euphrates Euphrates Euphrates	N-S, Route 7 E-W, Route 3	Northern Mesopotamia, Eastern Taurus	Keban silver, Ergani copper
Nineveh	Enclave		?	40?	U. Tigris	N-S Route 6 E-W, Route 2 E-W, Route 3	Northern Mesopotamia	Zagros copper, lapis, gold?, stones; Keban silver; Ergani copper
Godin Tepe (V)	Outpost	N.A.	N.A.	Small	Inland, Kangavar valley	E-W, Route 11 Khorasan Road N-S, Susiana-Rayy	Iranian central plateau	Zagros copper, silver, lead, gold?, lapis, stones
Tepe Sialk (IV.1)	Outpost	N.A.	N.A.	Small	Inland, by Kashan	N-S, Susiana-Rayy	Iranian central plateau	As above
El-Kowm 2 Caracol	Outpost?	N.A.	N.A.	Small	Inland, El-Kowm oasis	E-W, Route 10	Syrian desert Orontes valley	?

Note: N.A. = not applicable.

TABLE 2. Nature and Reliability of Data on Uruk Settlements in the Mesopotamian Periphery

Site	Type	Nature of Evidence	Primary References
EUPHRATES			
Near Rawa	Station	Survey: ceramics (r?)	M. van Loon, pers. comm.
Tell Qraya	Station	Excavation: ceramics (+), glyptic practices, and iconography, reckoning devices	Reimer 1989; Simpson 1988
Tell Ramadi	Station	Survey: ceramics (+)	Geyer and Monchambert 1987
Sites 1, 55, 96, 99	Stations	Survey: ceramics (r?)	Kohlmeyer 1985
TABQA CLUSTER			
Habuba-süd/ Quannas/Aruda	Enclave	Excavations: architecture, reckoning devices, numerical notation tablets; ceramics (+); glyptic practices and iconography, stone amulets, small objects	Strommenger 1980a; Finet 1979 Sörenhagen 1974/75; Topperwein 1973; Ludwig 1979; van Driel and van Driel-Murray 1979, 1983; van Driel 1982, 1983.
Sheik Hassan	Early Enclave? Cluster Site	Excavations: architecture, reckoning devices, Glyptic practices and iconography, broad range of ceramics	Boese 1986/87
Tell Habuba K.	Cluster site	Excavations: ceramics (r?)	Strommenger 1980a
Tell el Hajj	Cluster site	Excavations: ceramics (+)	Stucky et al. 1974
Tell Hadidi	Cluster site	Excavations: ceramics (-)	Dornemann 1988
Tell Mureybit	Cluster site	Excavations: ceramics (-)	van Loon 1968
Mureybit Ferry	Cluster site?	Survey: ceramics (?)	van Loon 1967
Zreyjiye-south	Cluster site?	Survey: ceramics (?)	van Loon 1967
Tell Kreyn	Cluster site?	Survey: ceramics (?)	van Loon 1967
BIREÇIK-JERABLUS CLUSTER			
Jerablus	Cluster site?	Survey: ceramics (r?)	Strommenger 1980a
Jerablus Tahtani	Cluster site	Survey: ceramics (+)	G. Stein, pers. comm.
Carchemish	Enclave?	Excavations: ceramics (+), seal iconography	Woolley 1921, 1952
Tiladir Tepe/ Kum Ocağı/ Şadi Tepe	Enclaves	Survey; terra cotta wall cone, broad range of ceramics	Algaze 1989a; Algaze et al. 1991
Koneçlı Höyük	Cluster site	Survey: ceramics (+)	Algaze et al. 1991
Akarçay Höyük	Cluster site	Survey: ceramics (-)	Algaze et al. 1991
Şavi Höyük	Cluster site	Survey: ceramics (-)	Algaze et al. 1991
Şeraga Höyük	Cluster site	Survey: ceramics (-)	Algaze et al. 1991
Kırmızı Ok	Cluster site	Survey: ceramics (-)	Algaze et al. 1991
Yarım Tepe	Cluster site	Survey: ceramics (-)	Algaze et al. 1991
Zeytin Bahçeli	Cluster site	Survey: ceramics (-)	Algaze et al. 1991
Aktaş H. #1	Cluster site	Survey: ceramics (-)	Algaze et al. 1991
Kefri Höyük	Cluster site	Survey: ceramics (-)	Algaze et al. 1991
Near Şaray # 1	Cluster site	Survey: ceramics (-)	Algaze et al. 1991
Tilbes Höyük	Cluster site	Survey: ceramics (-)	Algaze et al. 1991
Horun Höyük	Cluster site	Survey: ceramics (-)	Algaze et al. 1991
SAMSAT CLUSTER			
Samsat	Enclave	Survey and excavation: ceramics (+); glyptic iconography; terra cotta wall cones	Özdoğan 1977; Özgüç 1987; Mellink 1988, 1989; Özten 1984
Site 15	Cluster site? Station?	Survey: ceramics (+)	Wilkinson 1990a
Site 39	Cluster site? Station?	Survey: ceramics (-)	Wilkinson 1990a
Hassck Höyük	Station	Excavation: architecture, glyptic iconography, terra cotta wall cones, broad range of ceramics, small objects and amulets	Behm-Blancke et al. 1981; Behm-Blancke et al. 1984; Behm-Blancke 1989

(continued)

Notes: (?) data are suspect; (-) data are reliable but the range of types present is small; (+) data are reliable and the range of types present is broad; and (r?) range of types present is unknown.

TABLE 2. (continued)

Site	Type	Nature of Evidence	Primary References
BALIKH			
SAMSAT CLUSTER			
Samsat	Enclave	Survey and excavation: ceramics (+); glyptic iconography; terra cotta wall cones	Özdoğan 1977; Özgüç 1987; Mellink 1988, 1989; Özten 1984
Tell Brak	Enclave	Excavation: architecture, architectural decoration, broad range of ceramics, glyptic practices and iconography, stone amulets, small objects	Mallowan 1947; Fielden 1981a; D. Oates 1977, 1982, 1983, 1985; J. Oates 1985, 1986
Sites 1, 7, 26, 58	Stations?	Survey: ceramics (r?)	Monchambert 1984
Umm Qseir	Station?	Excavation: ceramics (+)	Hole and Johnson 1986/87
Tell Fadgami	Station?	Survey: ceramics (+)	Johnson 1988/89; Röhlig and Kühne 1977/78
TIGRIS			
Nineveh	Enclave	Excavation: glyptic practices and iconography, numerical notation tablets, broad range of ceramics	Campbell Thompson and Hutchinson 1931; Campbell Thompson and Hamilton 1932; Campbell Thompson and Mallowan 1933; Algaze 1986b; Collon and Reade 1983
HIGHLANDS			
Godin Tepe (V)	Outpost	Excavation: glyptic practices and iconography, numerical notation tablets, broad range of ceramics	Weiss and Young 1975
Sialk (IV.1)	Outpost	Excavation: glyptic practices and iconography, numerical notation tablets, broad range of ceramics	Ghirshman 1938; Amiet 1985
SYRIAN DESERT			
El-Kowm 2	Outpost	Excavation: ceramics (+)	Cauvin and Stordeur 1985

Notes: (?) data are suspect; (—) data are reliable but the range of types present is small; (+) data are reliable and the range of types present is broad; and (r?) range of types present is unknown.



## The Function of Uruk Settlements in the Syro-Mesopotamian Plains and Surrounding Highlands

### GATEWAY COMMUNITIES

The pattern of Uruk settlement in the Syro-Mesopotamian plains and in the highlands is indicative of the function of those sites. The isolation of Uruk enclaves within alien hinterlands is often encountered in situations of initial colonial contact between societies at markedly different levels of sociopolitical evolution. Often described as dendritic central places by geographers, such centers are characteristic of vertical distribution systems that cut across political and cultural boundaries and allow well-organized polities maximum access at minimal expense to less developed peripheries (Smith 1976). In fact, the very specific location of Mesopotamian enclaves in the north at focal nodes of the structures of communication crisscrossing the area closely matches models elaborated by geographers to explain the formation and distribution of settlements over nonhomogeneous landscapes in situations where long-distance trade is of primary economic importance. Under these conditions, the models propose that attempts to control access to resources and regularize their flow will likely lead to the creation of "gateway" settlements at natural passage points between contrasting regions involved in the exchange or at locations of "considerable transportational significance," such

as critical nodes along a transportation route or bulk-breaking points (Burghardt 1971; Hirth 1978).

The strategic rationale underlying the location of Uruk enclaves in the Syro-Mesopotamian plains, discussed in the preceding chapter, makes a compelling case for the enclaves as ancient "gateway communities." Their position seems efficiently suited for control of access in and out of the alluvium and of the flow of resources and goods in both directions. Although some of the enclaves could have and most probably did tap into the considerable agricultural potential of their surroundings, the geographically scattered distribution of the enclaves is an indication that neither the acquisition of broad expanses of territory (formal empire) or the effective large-scale exploitation of local agricultural resources were primary considerations (for a contrary view, however, see Schwartz 1988a). The efficient exploitation of Syro-Mesopotamian agricultural resources would have required a radically different configuration than the one observed: a more extensive settlement pattern in areas of high agricultural productivity, such as the Upper Khabur and Upper Tigris basins. In such areas, one would have expected to find a broad range of Uruk sites in various sizes dispersed over a wide landscape away from the rivers and the principal routes—in short, a settlement pattern similar to that observed for the

Susiana plain. Political control would have also necessitated a different settlement pattern than the one actually observed. Although specific circumstances no doubt differed greatly, it is perhaps possible to use what is known of the structure of Neo-Assyrian imperial control over Syro-Mesopotamia in the first millennium B.C. (Malbran-Labat 1982) to infer what effective Uruk political control over portions of the same area would have looked like. Such control would likely have required dispersed Uruk administrative facilities and garrisons within important Late Chalcolithic indigenous centers in the hinterlands of Syro-Mesopotamia, and well as regularly spaced way stations and storehouses along the principal east-west overland routes crisscrossing the area.

Moreover, that control of neither territory nor agricultural resources were primary factors behind Uruk emplacements in the north is underscored by the location of the Habuba/Qannas/Aruda enclave in the Tabqa region, an area where average annual rainfall is at best marginal (150–250 mm) and where river incision precludes irrigation outside of the Euphrates floodplain. In fact, modern studies of the Tabqa region suggest that a good rainfed crop can only be expected once every ten years or so (Métral 1987:112, n. 6). Thus, unless one presumes that the river was significantly less incised in Uruk times than at present, that rainfall was then more abundant, or that shortfalls in the Tabqa area would be made up by better-situated enclaves upstream in Anatolia, in the long run the position of the Habuba/Qannas/Aruda enclave and nearby Uruk sites would have been difficult in the face of local opposition blocking access to grain and other agricultural supplies from the fertile Syrian plains of the Aleppo region to the northwest.<sup>1</sup>

Several clues from the main Uruk settlements of the Tabqa area are consistent with the argument that the cooperation of native groups must have been taken for granted at the time the settlements were established. For one, grain storage facilities were not detected at Habuba-süd, Tell Qannas, or Jebel Aruda, in spite of the substantial exposures that were practicable at each of those sites.<sup>2</sup>

Furthermore, those exposures produced few agricultural implements. Only a few sickles were recorded at Habuba-süd (Strommenger 1980a:55), and at Aruda blades with silica sheen or denticulation such as would be expected for agricultural use were reported to be “almost completely absent” (Hanbury Tenison 1983:27). Instead, as noted by Sürenhagen, what was found were indications that grain from the Syrian hinterland was imported into the settlement. Evidence is provided by a number of storage jars of the chaff-faced Amuq F type found at Habuba, some containing the remains of grain (Sürenhagen 1986a:21–22). These jars are common in contemporary Late Chalcolithic sites across the Syro-Mesopotamian plains and were not produced at Habuba. Some measure of peaceful contact and exchange must have existed in order to ensure continued access to local agricultural resources without which the Tabqa enclave, for all its mighty walls, could not have survived for any extended period of time.

Another case in point is the distribution of apparent Uruk stations on the Balikh alongside what must have been an important overland route. These sites, it will be remembered, were situated in the vicinity of larger indigenous centers, and whatever their function, they could not have existed or operated without the implicit consent of nearby rulers. Most telling in regard to the probable collaboration of local polities and Uruk settlements, however, is the location of Mesopotamian outposts in the Zagros and, possibly, Taurus ranges—of which Godin and Sialk are the only excavated examples. The case of Godin is clearest. In the context of the highland Late Chalcolithic settlement at Godin (Godin VI), the small Uruk fort at the top (Godin V) represents a replica in miniature of the much larger southern Mesopotamian enclaves in the northern plains. In both cases, the intrusive outposts are embedded in an alien hinterland—in the Godin case it is simply all the more immediate. Irrespective of whether the Godin V outpost had its roots in forces originating in the alluvium or, as the excavators have argued, in the at this time closely associated Susiana plain, it is beyond doubt that the po-

sition of the hilltop settlement would have been untenable in the face of active local opposition. The survival of outposts such as Godin and Sialk implies that the highland communities in the midst of which they were located were amenable to participation in a wider exchange network tying into the alluvial lowlands of southern Iraq and Khuzestan.

#### URUK MATERIALS IN THE SURROUNDING PIEDMONT AND HIGHLANDS

The presence of Uruk enclaves in the Syro-Mesopotamian plains and of outposts in the Zagros strongly suggests that highland resources were being exploited for the alluvial market. Further evidence that this was so is provided by the presence of typical Uruk materials in numerous local sites in the Zagros/Taurus piedmont and highlands. The majority of the sites in question remain unexcavated, and therefore little can be said about the specific intrasite context of many of the objects. At a minimum, however, the intrusive artifacts are indicative of the existence of cross-cultural contacts between highland communities and Uruk polities. Equally important, the distribution of these artifacts furnishes us with important clues as to the intensity and direction of that interaction. It is possible that some of the sites in which characteristic Uruk artifacts are found (in many cases only limited survey evidence is available) might turn out to represent further Uruk outposts in the Godin V or Sialk IV.1 model. However, the majority were surely indigenous occupations. Such sites are often the largest in their localities and are commonly situated at positions commanding either access to highland routes (fig. 30) or to known deposits of highland resources (fig. 35).

#### Highland Routes

The distribution of Uruk artifacts in sites controlling access to highland routes is most definite in the case of east-west routes across the northern and central Zagros. In those areas, isolated Uruk ceramics are usually found in indigenous sites commanding the valleys leading into and across the mountains. In the northern Zagros piedmont area within Iraqi Kurdistan, for example, Mesopotamian cul-

tural elements have been identified at a variety of sites, all well positioned to control the main routes from the Transtigradian Plains into the highlands. Those routes, it will be remembered, follow the courses of the principal left bank tributaries of the Tigris as they cut across the Zagros (Levine 1973, 1974a). A case in point is the Late Chalcolithic mound of Qalinji Agha (now within the suburbs of Erbil), where two Mittelsaal-type houses flanking an irregularly buttressed platform (fig. 28) suggest some measure of interaction with the Uruk world (Abu al-Soof 1969; Hijara 1973).<sup>3</sup> Such contacts should come as no surprise, since Erbil/Qalinji Agha is centrally located in the Transtigradian plain between the Greater and Lesser Zab rivers and is the traditional terminus of routes into the piedmont following the courses of each of those rivers. Those up the Greater Zab lead toward Ruwandiz and ultimately emerge in the Solduz valley and the Qazvin area, while those up the Lesser Zab cross the Rania plain and eventually reach Hamadan (fig. 30). Surveys and excavations in the Rania area, in fact, have documented at least four Late Chalcolithic sites yielding a small assortment of Uruk ceramics within local assemblages. Uruk types attested include beveled-rim bowls, and characteristic spouted (e.g., fig. 29L-M), pear-shaped (fig. 29K), and strap-handled jars (Abu al-Soof 1985). Interestingly, each of the sites in question (Qarashina, Basmusian, Kamarian, and Tell Shemshara) is located along the principal track across the Rania plain into the Zagros (Abu al-Soof 1970).

Similarly, on the Kirkuk plain not far from where the Adhaim River emerges from the mountains is the site of Nuzi, where layers containing beveled-rim bowls and other typical Uruk pottery types (e.g., fig. 29G, I-J) were exposed in a deep sounding. Also found at Nuzi, but in a different sounding, was a cache of numerous stamp seals with coarse drilled designs (e.g., fig. 29A-B) and four cylinder seals (e.g., fig. 29C-D) (Starr 1939). One of the latter bears the typical late fourth millennium motif of carelessly drilled rows of ovals (fig. 29D), noted repeatedly in the preceding discussions. The stamp seals, in turn, closely resemble

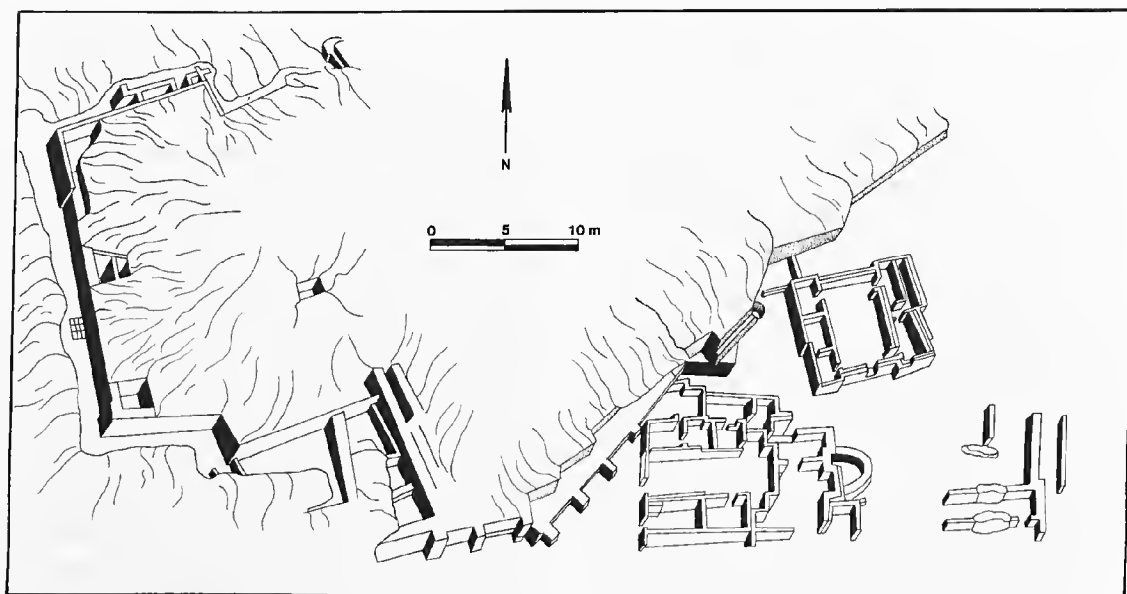


Fig. 28. Plan of buttressed terrace and associated houses at Qalinj Agha (Level IV).

examples from the Eye Temple sequence at Brak.<sup>4</sup> Nuzi, too, is well positioned to control routes into the piedmont, in this case those toward the Shahrizur plain in the Diyala River headwaters and the Sulemaniyah arca, which eventually emerge into the Hamadan plain via Sanandaj (fig. 30). Not surprisingly, at least three excavated sites in the Shahrizur area (Bakr-i-Awa, Dwanza Imam, Gerdi Resh) have yielded a limited range of typical Uruk pottery (e.g., fig. 29E, F, H, N), once again, in the context of local assemblages (Abu al-Soof 1985; Hijara 1976).

It is in the central Zagros along the Khorasan Road from the Diyala and Hamrin plains into the Iranian plateau (fig. 30), however, where interaction between Uruk polities and highland communities appears to have been most intense and where the distribution of Uruk materials in strategically situated indigenous sites is most clearly observed. Surveys within the Zagros in Iran show that isolated Uruk ceramics are not uncommon in sites along the various intermontane valleys traversed by the Khorasan Road. Beveled-rim bowls and a limited range of other Uruk pottery types have been identified not only in the Kangavar valley, where Godin is lo-

cated, but in at least eleven sites in the Shahabad and Mahidasht valleys as well, closer to the Diyala (Levine and Young 1987; Young 1986). South of the Khorasan Road, in the intermontane valleys of Luristan, there is less evidence of contacts (Goff 1971; Young 1966), although this may well reflect nothing more than the greater intensity and reliability of surveys to the north. The valleys and plains across Luristan are isolated from Mesopotamia by the imposing Kabir Kuh chain, through which few passes are practicable (Goff 1968). Communications, therefore, are oriented longitudinally toward Khuzestan, and known routes follow the Karkekh and Dez rivers and their tributaries northward (Goff 1971; Stein 1940). Isolated beveled-rim bowls are found in at least two sites in the Hulailan valley (Chia Fatela and Chasmeh Sardeh), which must tie into routes up the Saimarreh River, a tributary of the Karkekh (Goff 1971; Mortensen 1976). Finally, beveled-rim bowls (Dyson 1965) and a single four-lugged jar (Contenau and Ghirshman 1935: pl. 68, top right) are also reported at Tepe Giyan, in the Nehavand valley, which is closely connected to both north-south routes up the Dez and to the Khorasan Road system (fig. 1, above; fig. 30).

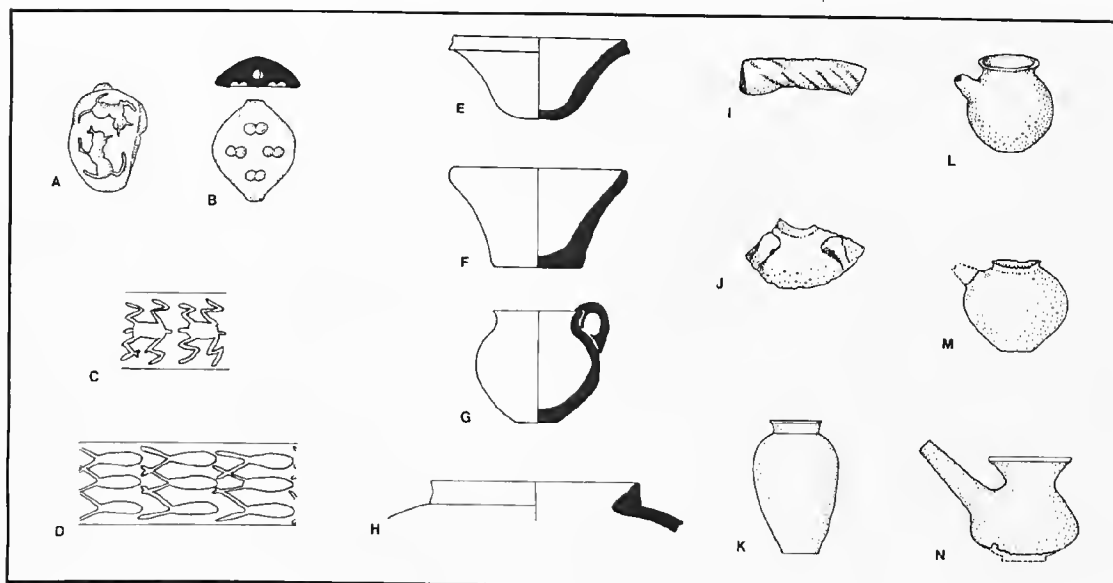


Fig. 29. Selected elements of Uruk culture at sites in the Transtigridian Plains and the Iraqi Kurdistan sector of the Zagros piedmont (not to scale).

Archaeological explorations of southern Zagros passes have been to date less intensive than those of comparable routes to the north. Nevertheless, it is certain that significant highland-lowland contacts also took place across the southern Zagros in the Uruk period. A survey of the Shahr-i Kord plain in the Bahtiyari region just northeast of Khuzestan, for example, revealed two sites barely 1 kilometer from each other (possibly successive occupations) with some Uruk ceramics on their surface (Zagarell 1982:39, 64, figs. 7, 25, 27–28). Both sites are located along an important road from Susiana (via the Izeh plain) into the central plateau, the same route that connects eventually with the Sialk outpost. Further still to the south, routes across the Zagros toward Fars and eventually Kerman and Sistan (fig. 1) remain largely unknown, save for the early surveys of Stein (1936, 1940). These routes must have been important, however, since Uruk materials were commonplace in surveyed Early Banesh sites in the Kur River basin of Fars (Alden 1979; Sumner 1986). Types attested include beveled-rim bowls (fig. 31A), storage-sized jars with undercut rims, four-lugged jars with characteristic shoulder incisions (fig. 31E–F), spouted

bottles with band rims (fig. 31G), an assortment of typical drooping or trumpet-shaped spouts (fig. 31H), pear-shaped bottles (fig. 31I), wall cones (fig. 31J), and stone weights (?) with cruciform grooves (fig. 31B).<sup>5</sup>

Alden (1982) interprets the Uruk materials in Fars as signifying an actual process of colonization by settlers from Khuzestan. In the absence of coherent exposures of Early Banesh levels that would reveal the nature of the associated cultural assemblage, however, available evidence could as well be taken to indicate a process of acculturation caused by the onset of intense contacts with Uruk societies in the Susiana plain, possibly related to the opening of routes toward the southeast. In either case, however, interaction between Fars and the Uruk world can be shown to have been a long-term process, since beveled-rim bowls are found already in excavated Terminal Lapui-period levels in at least one Kur River basin site, Tal-i Kureh (Alden 1979:155). Perhaps significantly, Early Banesh sites cluster in the western portion of the basin (Alden 1982:620; Sumner 1986), at the head of routes from Khuzestan via the Ram Hormuz and Behbahan plains (Hansman 1972; Stein 1940). Nevertheless, a cache

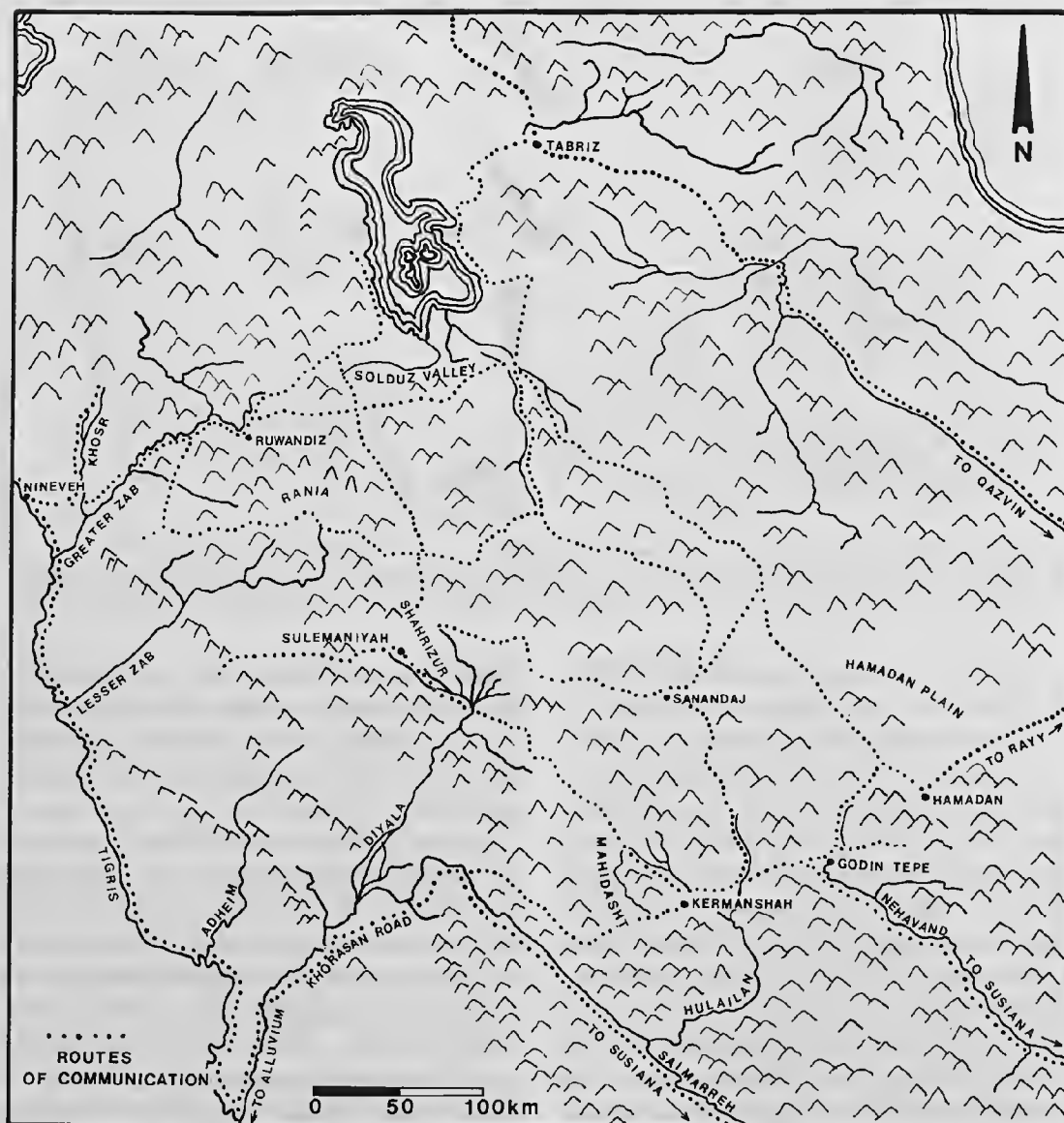


Fig. 30. Sites in the Transigridian Plains and intermontane valleys of the northern and central Zagros where Uruk materials have been found.

of vessels among which were several unmistakable Uruk types (e.g., fig. 31C–D) was found by Stein in the opposite (northeast) end of the Kur River basin, in a narrow defile that appears to mark a track northward toward the Isfahan area.<sup>6</sup> Whether or not these vessels indicate an actual occupation or simply one or more burials cannot, however, be ascertained from the published information.

A similar distributional pattern of Uruk materials within local sites is found in southeastern Anatolia and the Taurus region. There, too, sites with evidence of southern Mesopotamian cultural elements appear to stand at the top of local settlement hierarchies and are commonly found at locations controlling access to highland routes. One such route appears to have been the Tigris River itself

and its various tributaries. Beveled-rim bowls have been recognized at the site of Çattepe at the confluence of the Tigris and the Bohtan Su, an important Tigris tributary southeast of Siirt (Algaze 1989a: 254). The strategic position of this site astride a traditional route following the Bohtan into the eastern Taurus and the Bitlis Pass (British Admiralty 1917; Route 85) is demonstrated by the fact that Çattepe later became the locus for a sizable Late Roman *equites* fort on the eastern border of the Roman empire (Lightfoot 1986), large portions of which are still visible today. Further upstream on the Tigris catchment, beveled-rim bowls have also been recovered at Gre Migro, an imposing (45 meters high) mound on the Batman River. Located 22 kilometers north of the confluence with the Tigris, Gre Migro is the most important multiperiod mound in the Batman basin (Algaze 1989a). Moreover, traces of a classical period(?) bridge by the foot of the mound indicate that this site too is well positioned in relationship to traditional routes in the region (fig. 32).

The best example yet known from Anatolia of the correlation between Uruk materials and strate-

gically located native sites is Arslan Tepe in the Malatya area of the eastern Taurus (fig. 32). Recent Italian excavations at this site have uncovered a massive Late Chalcolithic architectural complex (see fig. 45 below) characterized by a largely indigenous assemblage (Arslan Tepe VIA) that will be discussed in greater detail in the chapters that follow (Frangipane and Palmieri 1988). For the moment, it is sufficient to note that within this complex was found a small number of imported Uruk artifacts and locally made copies of Uruk pottery types and seals. Particularly important are a variety of spouted jars and bottles of unmistakable Uruk ware and type (fig. 33D–E) recovered *in situ* in store-rooms (Palmieri 1989: fig. 3:5–7). Other Uruk or Uruk-like types in the complex include a handful of beveled-rim bowls (fig. 33C), an ovoid jar with a crosshatched band and diagonally reserved slip shoulder decoration (fig. 33 G), small four-lugged jars (fig. 33A), drooping spouts (Palmieri 1973: fig. 72:10), and globular storage-sized jars with winkel-haken-like impressions and diagonally reserved slip on their shoulders (fig. 33F). Also found in the complex were impressions made from a limited

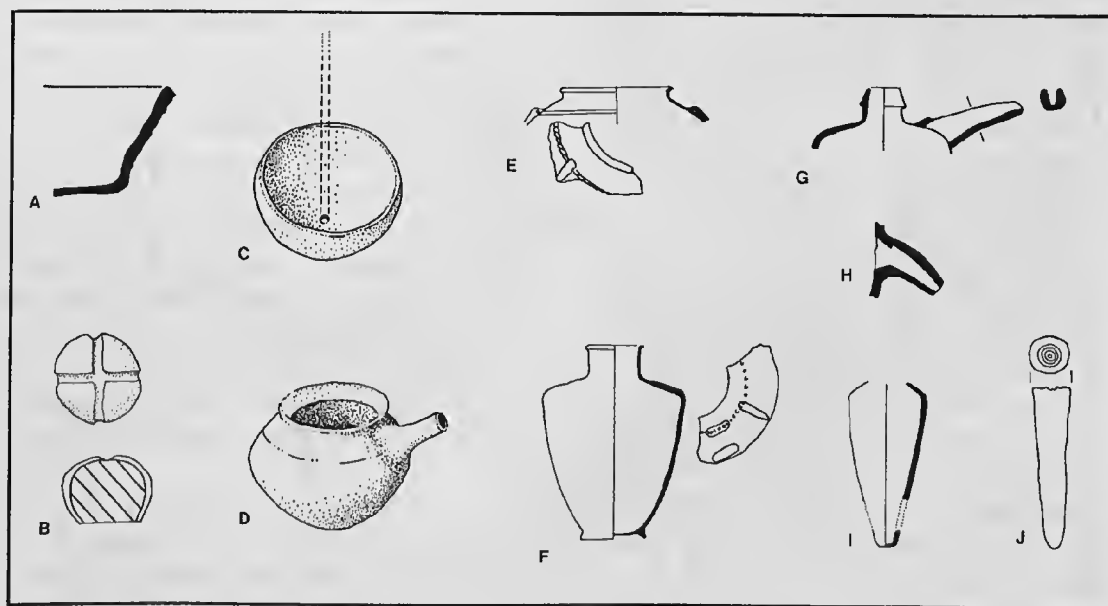


Fig. 31. Selected elements of southwest Iranian Uruk culture in Fars Province (not to scale).

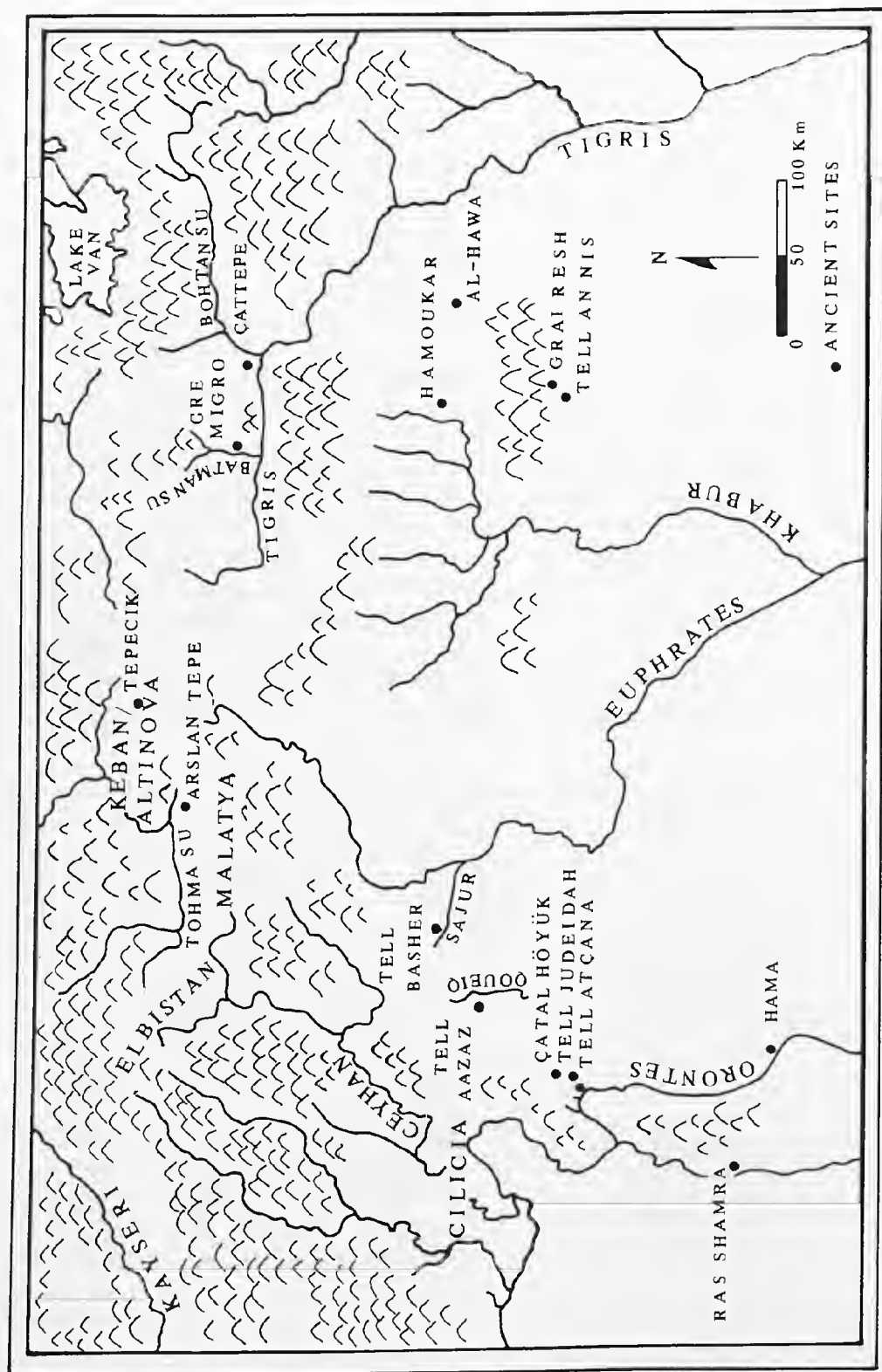


Fig. 32. Late Chalcolithic sites in the Syro-Mesopotamian plains and southeastern Anatolian highlands where Uruk materials have been found.



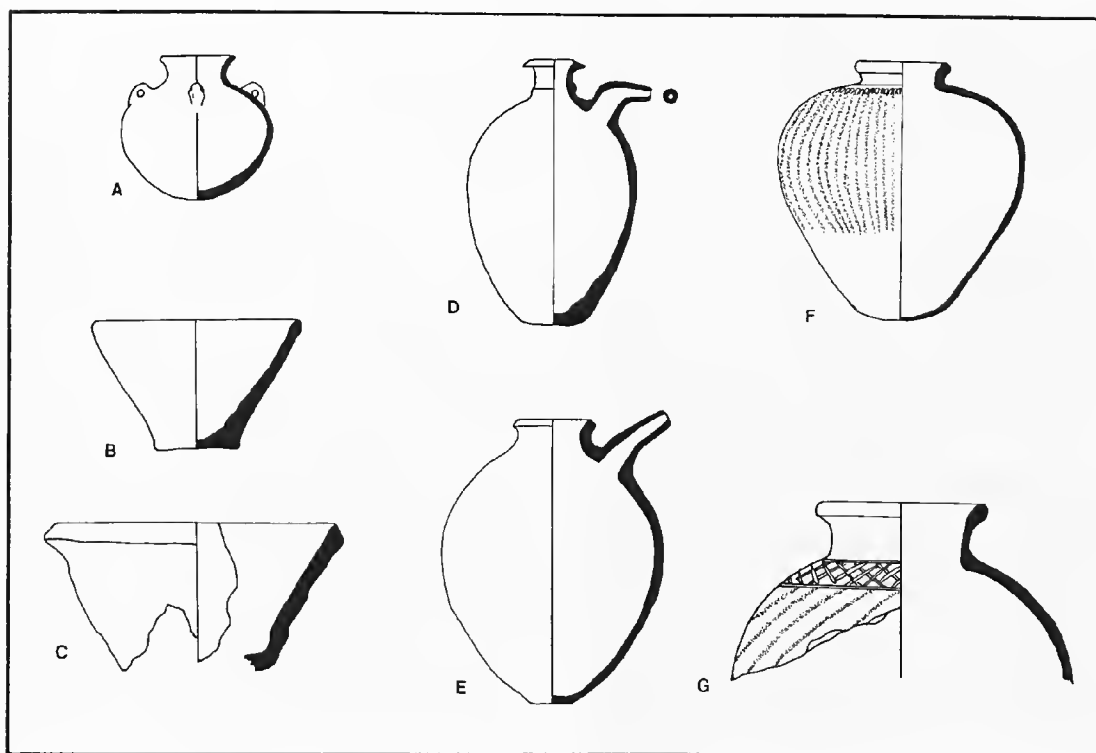


Fig. 33. Selected ceramics of Uruk origin or Uruk type from Period VIA levels at Arslan Tepe (not to scale).

number of locally produced cylinder seals with an iconographical repertoire strongly reminiscent of Uruk glyptic styles (e.g., fig. 44A–D below). The presence of Uruk-related artifacts at Arslan Tepe is certainly not coincidental. Surveys indicate that the site is the largest in the Malatya plain and the nearby Tohma Su basin. Moreover, the Malatya area commands an important pass across the Taurus range and has historically represented the natural meeting point of routes from the Kayseri plain and central Anatolia (via Elbistan or the Tohma Su) and routes from eastern Anatolia and the Syro-Mesopotamian plains (Yakar and Gürsan-Salzmann 1979).

#### Highland Resources

In addition to sites controlling access to important highland routes, Uruk materials are also often recognized in indigenous sites exploiting known deposits of valued highland resources. Typically, those sites are also located within easy reach of im-

portant routes of communication. This pattern is clearest in the case of metals, particularly copper. In the Taurus highlands, for instance, traces of copper smelting have been uncovered in Late Chalcolithic levels of sites in the Keban region, near the important Ergani copper mines and accessible to the Upper Khabur area of northern Mesopotamia via routes across the Karacadağ/Tur Abdin massif. Two of the sites, Tepecik and Norşuntepe, produced sizable amounts of copper slag (Esin 1975; Hauptmann 1975), indicating the existence of a flourishing native industry which probably predated and was surely contemporaneous with the network of Uruk enclaves in the north. Intriguingly, Uruk ceramics have been reported in one of those sites, Tepecik (fig. 34). These materials were not found in the main settlement itself, where smelting was performed, but were concentrated instead on an isolated structure on the southwest slope of the mound (Esin 1982).

Important copper deposits also exist in the Ira-

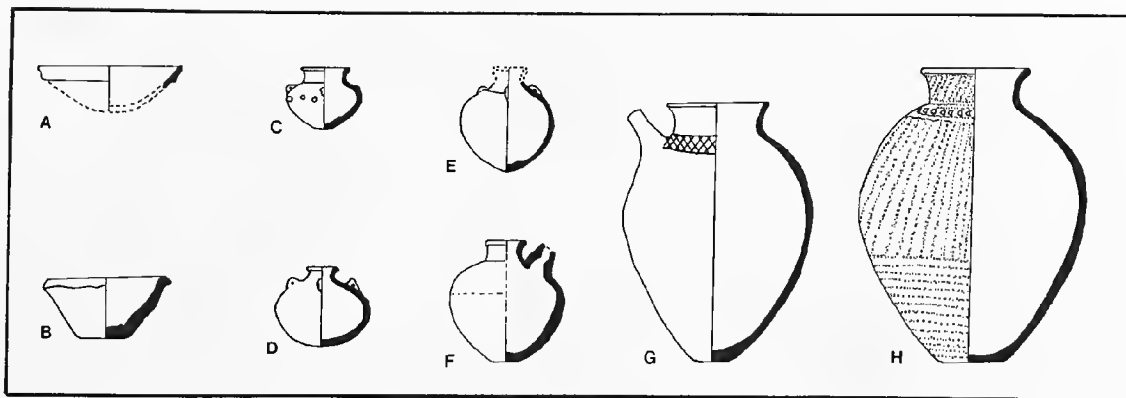


Fig. 34. Selected ceramics of Uruk type from the structure on the southwest slope of Tepecik (not to scale).

nian plateau (J. R. Caldwell 1967; Wertheimer 1973; Berthoud et al. 1982). There, too, it is possible to document the presence of a handful of Uruk pottery types in the context of local sites commanding access to some of the principal copper sources in the area (fig. 35). At Tepe Ghabrestan (Level IV.1-3), for example, numerous beveled-rim bowls and occasional conical cups of Uruk type (Majidzadeh 1976a) were found. The site lies near copper sources in the Qazvin plain and appears to have been an important metallurgical center since at least the fifth millennium B.C. (Majidzadeh 1979). Ghabrestan was accessible to Uruk societies through either the Khorasan Road or through an east-west road of lesser importance into northern Mesopotamia via the Solduz valley and the Lesser Zab.

A comparable case is found at Tepe Sialk where, as will be recalled, an Uruk outpost was established astride the principal north-south route across the Iranian plateau. Two distinctive Uruk spouted bottles (e.g., fig. 27C) were found in a level predating the outpost,<sup>7</sup> and a recent reevaluation of the evidence by Amiet (1985, 1986) suggests that other Uruk artifacts assigned in the original publication to Sialk IV may have been found instead in earlier levels (fig. 27D, F, K). Like Ghabrestan, Sialk was located close to important copper sources (fig. 35), and it was an important metallurgical center long before its first contact with Uruk societies is documented at the site (Majidzadeh 1976a). Sources in the Veshnovah area in the im-

mediate vicinity of Sialk may have been mined already in the late fourth millennium, although the evidence is not conclusive (Holzer, Momenzadeh, and Gropp 1971). However, analyses of copper objects from Susa and Sialk show that the Anarak mines, which are the largest in Iran and are located some 100 kilometers due east from Sialk in the Dasht-i Kavir, were certainly being exploited at the transition from the fifth to the fourth millennium, if not before (Berthoud et al. 1982).

Finally, important copper sources are also found in the Kerman region (Berthoud et al. 1982; J. R. Caldwell 1967). Once again a small variety of Uruk materials are found at strategically located sites near those sources. Cases in point are Tal-i Iblis in the immediate vicinity of a major deposit and Tepe Yahya near less substantial mines (fig. 35). The case of Iblis is clearest. Situated in the Bardsir valley some 80 kilometers southwest of Kerman, Iblis was by the fifth millennium an important indigenous metallurgical center comparable to either Ghabrestan or Sialk (J. R. Caldwell 1967). Beveled-rim bowls, four-lugged jars, and other Uruk types were identified in late fourth millennium deposits (Iblis IV) at the site (J. R. Caldwell 1967:23-25, figs. 24, 26, 45:5). The case of Yahya, a little over 200 kilometers directly south of Kerman, is more ambiguous, as the only Uruk type recovered in contemporary levels (Yahya Va) was the beveled-rim bowl, and only a handful of small sherds of the type were represented (Beale

1978:301).<sup>\*</sup> The Kerman-area resources processed at Iblis or Yahya were accessible to Uruk societies in Khuzestan, either directly through routes across the south-central Zagros and the Kur River basin or indirectly from the Sialk/Kanshan area via routes bordering the western edge of the Dasht-i Kavir and Dasht-i Lut (J. R. Caldwell 1967:26).

The distribution of Uruk artifacts in the Zagros/Taurus ranges indicates that while Uruk enclaves in Syro-Mesopotamia and Uruk states in Khuzestan controlled the flow of resources and goods in and out of the alluvium, by and large control of the sources of raw materials themselves and of the routes that fed into the lowlands was held by indigenous communities that were willing to trade. Excavated archaeological evidence of one such community is available from the site of Tepe Gawra, situated some 20 kilometers northeast of Nineveh alongside one of the tracks across the Transtigradian plain that follows the length of the Khosr River into the Zagros (British Admiralty 1917: Route 67a).

The evidence from the site is somewhat ambiguous: in the context of what was published as a small mound, about 2 hectares in extent, were found significant indications of spatial and social differentiation not entirely compatible with our preconceptions of the social structure of settlements of Gawra's alleged size. The unique round structure uncovered in Level XI and the large tripartite structures of Levels IX and VIII (Tobler 1950), for example, suggest a measure of labor mobilization beyond the resources usually associated with small villages. An analogous conclusion is indicated by the presence of numerous sealings at the site suggesting the receipt of commodities from the surrounding area (Rothman 1988). Similarly, the substantial amounts of exotic resources recorded in some of the Late Chalcolithic tombs at Gawra are unexpected in the context of such a small settlement (Tobler 1950).

One possible explanation for the observed discrepancies at Gawra is that a lower terrace sur-

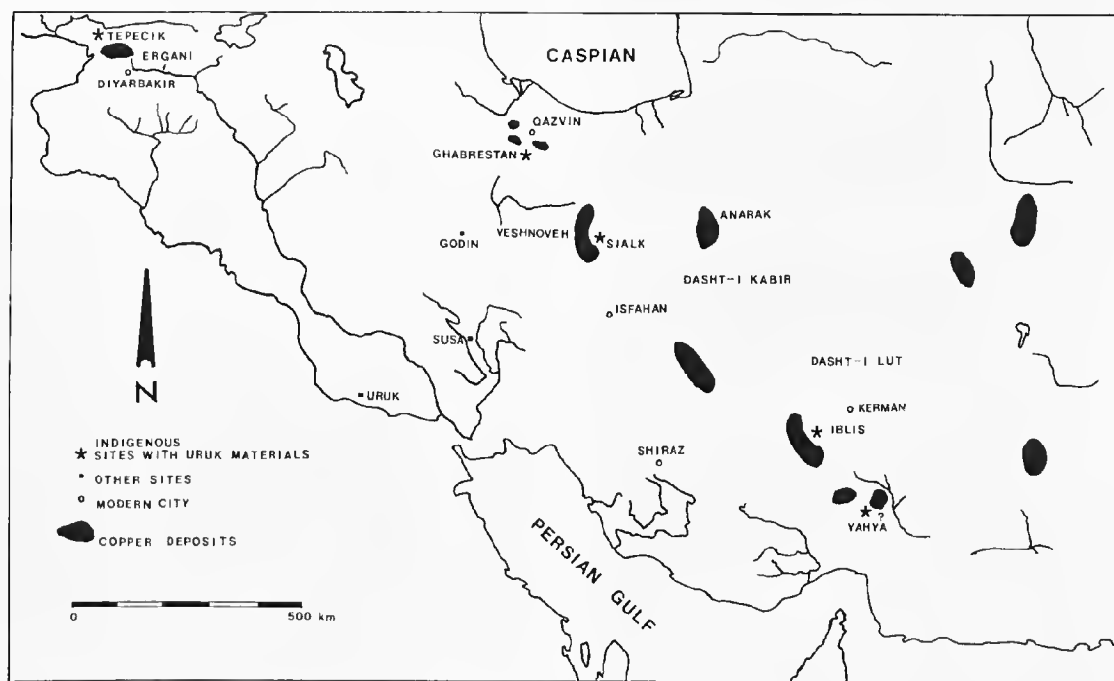


Fig. 35. Principal copper-bearing deposits in southeastern Anatolia, the Iranian plateau, and western Afghanistan and indigenous sites in their vicinity where Uruk materials have been found.

rounding the mound may exist that was neither dug nor recognized by the excavators (McG. Gibson, pers. comm., 1986). It is thus possible that Gawra as presently known represents but the acropolis of a significantly larger site. However, other scenarios (which need not exclude the preceding) are also possible. One is that suggested by Rothman (1988), who sees Gawra as a small independent ceremonial and administrative center servicing seminomadic groups in the Transtigridian Plains and the Zagros piedmont. Another is that Gawra represented a specialized settlement, perhaps an important link in the chain of local communities involved in highland-lowland trade. What role, if any, seminomadic groups would have had in the exchange is uncertain, but this last hypothesis would serve to explain the relative wealth of Late Chalcolithic levels at the site in terms of exotic imported resources such as precious and semiprecious stones (turquoise, jadeite, hematite, lapis, carnelian, diorite, marble, alabaster, gypsum, serpentine, steatite, quartz), sea shells, ivory, obsidian, copper, silver, and gold (Rothman 1988; Tobler 1950). Moreover, this exchange-link hypothesis would also help to explain the close connections with the highlands that may be discerned across a wide spectrum of the material culture of Late Chalcolithic levels at Gawra. This relationship is particularly close in the glyptic and ceramic repertoires of the site. The glyptic tradition of Gawra, with its characteristic scenes of horned and tête-bêche animal arrangements (Tobler 1950), has precise parallels in the stamp seal tradition of contemporary sites in the Zagros (D. H. Caldwell 1976) and highland Anatolia (Frangipane and Palmieri 1988). Also closely matched in the highlands are the distinctive fine impressed wares of Levels IX–XI (Tobler 1950: pl. LXXXa), which are attested at a number of Anatolian sites, most prominently at Norşuntepe in the Altınova area of the eastern Taurus (Hauptmann 1979: pl. 30). Other connections with the Altınova area are documented by the mortuary practices of the Late Chalcolithic inhabitants of Gawra. A case in point is provided by the rectangular mud-brick tombs of Levels VIII–XI (e.g., Tobler 1950: pl. XLVIa), which find pre-

cise correspondence at Korucutepe (van Loon 1978:10–11, pl. 9).

#### URUK MATERIALS IN THE SYRO-MESOPOTAMIAN PLAINS

Scattered Uruk ceramic types and, more rarely, seals have also been recovered at numerous Late Chalcolithic sites across the Syro-Mesopotamian plains. Such materials provide our only indication for the extent and direction of contacts between Uruk emplacements along the rivers and communities in the immediately surrounding plains.

East of the Euphrates (fig. 32), for instance, isolated Uruk pottery types are reported at (1) the important site of Tell Hamoukar in northeastern Syria (Sürenhagen, cited in Weiss 1983:44); (2) a variety of small sites surveyed on the plains north of the Jebel Sinjar in northwestern Iraq (Wilkinson 1990b); (3) the large site of Tell al-Hawa; also in the Sinjar plains of Iraq (Ball, Tucker, and Wilkinson 1989); and (4) at several sites on the southern flank of the Jebel Sinjar in Iraq, including Tell Gudri (Abu al Soof 1985), Tell an-Nis (Lloyd 1938), and Grai Resh (Lloyd 1940). West of the river (fig. 32), beveled-rim bowls are reported at the important site of Hama on the Orontes River, where a long sequence of the bowls was attested (Thuesen 1988:114, table 26), and in three sites in the plain of Antioch, Alalakh (Woolley 1955b), Çatal Höyük (fig. 36A), and Tell Judeidah (Braidwood and Braidwood 1960:234). A handful of other Uruk types (e.g., fig. 36B–C) have also been excavated at Judeidah, where they concentrate in late Phase F and early Phase G floors (Braidwood and Braidwood 1960). Uruk spouted jars with drooping spouts can be identified in a plundered Late Chalcolithic burial at Eski Ören (Archi, Pecorella, and Salvini 1971: fig. 90), a small mound on the Afrin River in the Gaziantep area. Finally, unspecified types of Uruk pottery are reported at a small Late Chalcolithic site near Karatepe on the Ceyhan River in the southern piedmont of the western Taurus (M. Özdoğan, pers. comm., 1988).

Less common but also attested in the plains west of the Euphrates in southeastern Turkey and

Syria (fig. 32) are cylinder seals carved in provincial versions of Uruk glyptic styles depending heavily on the use of the drill. The majority are of unknown provenance, having been acquired in the antiquities market (e.g., fig. 36E).<sup>9</sup> A few of the seals, however, can be assigned with varying degrees of certainty to specific sites. Particularly noteworthy among the latter are (1) a seal depicting a row of horned animals within ladderlike motifs (fig. 36D), allegedly excavated at Ras Shamra (ancient Ugarit); (2) four seals with varying motifs from Tell Judeidah and Çatal Höyük (e.g., fig. 36F);<sup>10</sup> (3) one seal depicting a herd of animals in front of a shrine in a manner strongly reminiscent of seals from Warka (Buchanan 1966: no. 22: cf. Heinrich 1936: pl. 19c), alleged to be from tell Aazaz in the Qoueiq basin north of Aleppo; and (4) two seals engraved in provincial versions of the Uruk animal-file motif (Buchanan 1966: nos. 707, 715) from Tell Basher, a large mound along the Sajur River midway between Gaziantep and Carchemish (Archi, Pecorella, and Salvini: 1971:95–97).

As a whole, the distribution of Late Chalcolithic

sites in the Syro-Mesopotamian plains in which isolated Uruk artifacts are documented is less easy to characterize than that of Uruk materials in the highland and piedmont sites already discussed. The clearest pattern emerged east of the Euphrates, where some of the sites appear to have been relatively important within their respective localities and others were certainly positioned along established overland routes. This is most obvious in the case of the Sinjar sites. Those on the southern flank of the Jebel Sinjar are clearly aligned with the southernmost of the main routes between the Upper Tigris and the Upper Euphrates (fig. 20; Route 4; and fig. 21), while those on the plains north of the Jebel are aligned with more northerly routes (fig. 20; Route 3; and fig. 21). This is confirmed by Wilkinson's recent survey in the northern Sinjar plains. He found that while Late Chalcolithic settlements were numerous, only a minority of those sites yielded a small range of associated grit-tempered Uruk sherds. More significant, sites in which Uruk materials were recovered were generally aligned with east-west overland routes across the area (Wil-

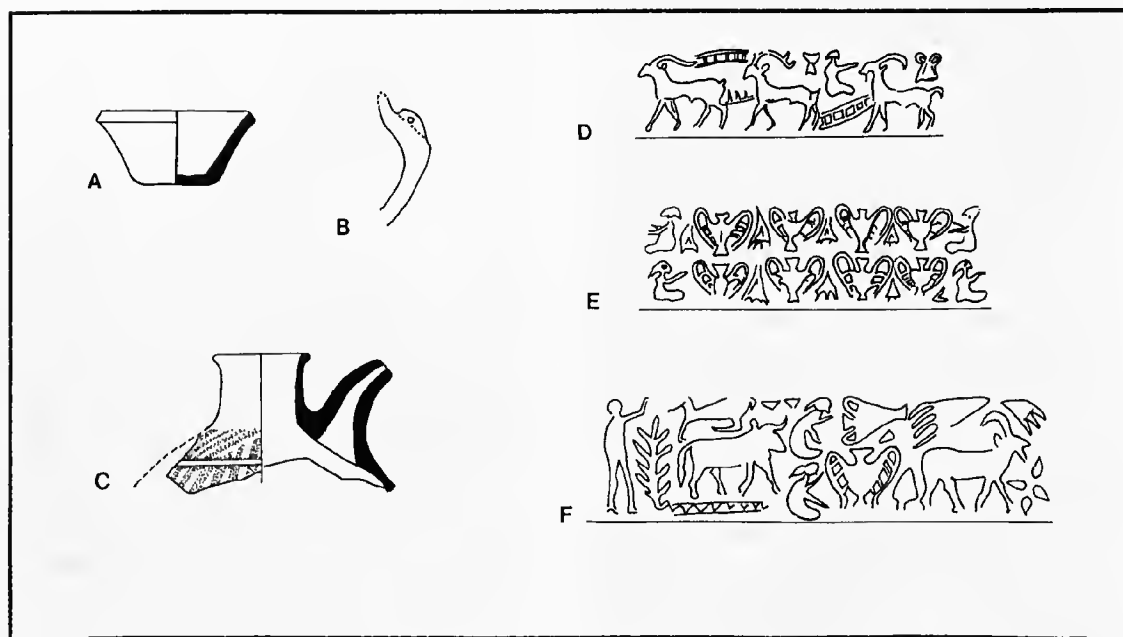


Fig. 36. Selected ceramics of Uruk type from the plain of Antioch and samples of peripheral Uruk seals from northern Syria (not to scale).

kinson 1990b: fig. 6, underlined sites). West of the Euphrates River, however, the distribution of local sites with Uruk materials is less clear because of the wide geographical dispersal of the sites in question, and because in many cases comprehensive surveys in their vicinity are lacking. The nature of indigenous settlements in Syro-Mesopotamia at the time of the Uruk intrusion will be discussed in detail in chapter 5.

### THE COMMODITIES EXCHANGED

In the long term, cross-cultural exchange and some measure of indigenous collaboration are the only hypotheses that satisfactorily explain available evidence for the Uruk presence across the Mesopotamian periphery. In particular, these hypotheses account for (1) the locational pattern of Uruk enclaves in the Syro-Mesopotamian plains, (2) the otherwise marginal position of the Habuba/Qannas/Aruda cluster, (3) the small Uruk sites near large local centers along the Balikh route, (4) the isolated position of Uruk outposts in highland valleys of the Zagros, (5) the distribution of scattered Uruk artifacts within indigenous highland sites near metal resources, and finally, (6) the material wealth of some local sites such as Gawra.

#### Exports

Not much is known about the nature of the commodities exchanged, but if later third and early second millennium documentation may be used as a guide, the majority of the goods exported from the alluvium would have been perishables, which leave few or no traces in the archaeological record. Paramount among these would have been elaborate finished textiles. Indeed, all the preconditions for the manufacture and export of such textiles were already in place in Mesopotamian city-states of the Uruk period (below, chap. 7), although actual evidence of the textiles themselves in peripheral sites must await the development of more sophisticated archaeological recovery techniques. Less certain is whether surplus grain was a significant export from the alluvium. To be sure, in the Sumerian epic cycle dealing with the kings Enmerkar and Lugalbanda

(Kramer 1952; Wilcke 1969), the city-state of Uruk in the alluvium is portrayed as exporting grain to the city-state of Aratta, located somewhere in the Iranian highlands, possibly in the vicinity of Kerman (Majidzadeh 1976b). This led Kohl (1978:472) to suggest that some highland communities may have come to depend on alluvial grain for their subsistence, but this is disputed by others (c.g., Posschl 1986:85). In any event, long-distance export of grain is not likely to have occurred on a regular basis because the transport of bulk commodities overland between the Mesopotamian alluvium and the Iranian or Anatolian highlands by means of donkeys simply would not have been economical in the long term (Bairoch 1988:11–12).

Whether or not the various types of Uruk ceramics recovered in the highlands were acquired for their contents is unclear. The answer is likely to depend on the function of each of the types involved and this remains largely undetermined. Other than beveled-rim bowls, the most common Uruk forms found in peripheral sites are spouted jars, four-lugged jars, pear-shaped jars, strap-handled jars, and storage-sized jars with undercut rims (figs. 29, 31, 33, 34, 36), although not all sites have this full constellation of types and not every example need be an actual import. Intuitively, it is difficult to see how the coarse but ubiquitous beveled-rim bowls that constitute our most frequent evidence of cross-cultural contacts could have been traded. This inference now appears substantiated by the results of neutron activation analyses of beveled-rim bowls from the environs of Samsat in the Atatürk Dam region of southeastern Anatolia, where the characteristic bowls can now be shown to have been made from site-specific local clays (Evins 1989). More likely to have been prized for their contents are the Uruk spouted bottles found in storerooms at Arslan Tepe VIA. These vessels raise the possibility that valuable liquids (wine or oils?) were one Uruk export, as will be discussed below.

Although the majority of the cylinder seal impressions found at Arslan Tepe with Uruk-related iconography were made from locally produced

seals (below, chap. 6), it is possible that some of the impressions may have been of Mesopotamian origin and reached the site accompanying exchange goods. One stopper fitting a bottle of Uruk type, for instance, was found discarded in the same storeroom and bore the impression of an as yet unpublished cylinder seal (Palmieri 1985:32). Inversely, discarded stamp seal impressions found in Uruk enclaves in the north and in Uruk cities in the south may have originated in peripheral sites and arrived accompanying goods of a thus far undetermined nature. A circular impression from the Eye Temple platform at Brak (Mallowan 1947: pls. XXIV:20), for instance, depicts a stag in a style typical for Chalcolithic glyptic in numerous northern sites.<sup>11</sup> Similarly, a number of stamp seal impressions and actual seals from Warka could prove to be of northern or highland origin. The majority of these seals and sealings are of unknown provenance (e.g., Jakob-Rost 1975: nos. 18, 20, 22, 32, 35; Heinrich 1936: pl. 20d), but a few from the Anu Ziggurat area were recovered in levels that can be securely assigned to the Uruk period (e.g., fig. 37A–D).<sup>12</sup>

#### Imports

But what exactly were the resources funneled into the alluvium as a result of the Uruk control of the structures of long-distance trade in the plains of Syro-Mesopotamia in the late fourth millennium B.C., and moreover, which resources were being acquired through Uruk states in Khuzestan? A number of possibilities may be suggested on the basis of (1) the locational pattern of Uruk enclaves in the north and outposts in the highlands, (2) the observed distributional pattern of Uruk artifacts in indigenous peripheral sites, and (3) direct evidence of resources from the periphery recovered in Uruk sites in the Mesopotamian alluvium and the Susiana plain.<sup>13</sup>

The location of Uruk outposts at Godin Tepe and Tepe Sialk astride the principal east-west and north-south routes traversing the central plateau of Iran is surely indicative of the importance of resources from the plateau and beyond for Uruk societies. One such resource was copper, an essential

commodity that figures prominently in the earliest pictographic tablets (Eanna IVa and III) from Warka (Nissen 1985b:358). Copper artifacts are commonly recovered in Uruk-period contexts. In the alluvium, this was best documented at Warka, where numerous copper vessels and implements were found in Anu Ziggurat area levels underlying the White Temple (Moorey 1985:24–25), in the inventory of the Riemchengebäude (Eanna IV; Lenzen 1958, 1959) and in the Sammelfund hoard (Eanna III, but containing earlier heirlooms; Heinrich 1936:47). Also found at Warka were numerous unworked copper lumps (Heinrich 1938:25) and what by all accounts appears to have been an installation for smelting metals (Nissen 1970:114). Copper implements are also common in Uruk sites in Khuzestan (e.g., Le Brun 1978a). As outlined in the preceding section, significant evidence exists for the exploitation of copper deposits in the Iranian plateau well before the Uruk period. By the late fourth millennium, however, this exploitation must have been at least partially oriented toward satisfying the needs of emerging Uruk urban centers. This may be inferred from the distribution of Uruk ceramics at local sites controlling access to known copper resources and, more tellingly, from the implantation of an Uruk outpost at Sialk. Moreover, the exploitation of Iranian copper sources for Uruk centers can actually be demonstrated at Susa. Analysis of copper artifacts from Uruk-period (and earlier) levels at that site show that the copper used was extracted from the Anarak mines of the Dasht-i Kavir near Sialk (Berthoud et al. 1982).

Other more exotic metals exploited by Uruk societies are also obtainable in the central plateau of Iran. Minimally, these include gold, silver, and lead. Silver and lead commonly associate in the same deposits and, like copper, are obtainable from the Anarak mines. Silver mines are also found in the Dasht-i Lut near the modern city of Yazd (J. R. Caldwell 1967). Silver is attested at Uruk sites. Silver beads, pendants, and bracelets have been found at Sialk in tombs attributable to the Uruk outpost level (IV.1) (Amiet 1985:308), and silver jewelry has also been found in Uruk burials at Susa (Le Bre-



*Fig. 37. Stamp seals and stamp seal impressions from Uruk levels at Warka of possible northern or highland origin. A–C: “Kleinfund Schicht” between layers C and D, Anu Ziggurat area; D: Eanna, deep sounding, Level XII (scale 1:1).*

ton 1957:109). In the alluvium, silver artifacts have been recovered at Warka, once again, both in the Riemchengebäude (Lenzen 1958, 1959) and the Sammelfund (Heinrich 1936). One important indication that silver from the Iranian plateau was reaching Uruk sites is its presence at the Sialk outpost. Another, is that lead, a by-product of silver extraction, was also found in the Sialk outpost (Amiet 1985:297) and was imported into Late Uruk Susa (de Mecquenem 1943: fig. 14), where it

was fashioned into spouted vessels that imitate contemporary pottery shapes (Le Brun 1978a: fig. 24:9–10).

Less certain, however, is whether gold from the central plateau was being exploited in the Uruk period. Important deposits are located in a zone extending from Qum to Golpayegan, not far from Tepe Sialk (J. R. Caldwell 1967). While there is little evidence to indicate that these deposits were exploited extensively in antiquity, a handful of gold



beads have been reported in the Sialk outpost (Amiet 1985:308). Alternately, gold could have been extracted from deposits in the central Zagros in the vicinity of Nehavand and Hamadan—both within easy access to the Khorasan Road and the Kangavar valley (Maxwell-Hyslop 1977:85). A final possibility is that gold, together with lapis lazuli, could have been brought from Afghan sources (Maxwell-Hyslop 1977:85). Gold is attested in Uruk sites in Khuzestan (Johnson 1987:127), but does not appear to have been common. Nonetheless, a small variety of gold artifacts were recovered in contemporary sites in southern Iraq, for instance at Warka in layers underlying the White Temple (Heinrich 1937:53; 1938: pl. 29B), in the Riemchengebäude (Lenzen 1958), and in the Sammel-fund (Heinrich 1936:47). Like gold, lapis lazuli also appeared fairly suddenly in the Uruk period, and numerous examples have been reported at Susa (Hermann 1968) and Warka (Heinrich 1936; Lenzen 1958). Lapis is only obtainable from mines in faraway Badakhshan in modern-day Afghanistan, and it most likely reached the Mesopotamian lowlands through either the Khorasan Road or through trans-Iranian routes across Kerman and Fars into Susiana (Majidzadeh 1982). However, more northerly routes across Anatolia are also possible, since unworked chunks of lapis were recovered at Jebel Aruda on the Euphrates (van Driel and van Driel-Murray 1979).

While copper, gold, silver, lead, and lapis from the central plateau and beyond were accessible to Uruk societies through the northern enclaves or Khuzestan, a number of other commodities present in Uruk sites must have been funneled through Uruk states in Khuzestan tapping into routes from southeastern Iran across the south-central Zagros. Such routes are well attested in the third millennium B.C., and their existence already in the late fourth millennium is indicated, as will be recalled, by the presence of Uruk ceramics in the Shar-i Kord plain and in the Kur River basin. One such commodity from the southeast is steatite/chlorite from the Kerman region (Beale 1973; Kohl 1978). It was used for the manufacture of cylinder seals (Asher-Greve and Stern 1983) and for intricately carved ritual

vessels such as those found at Warka and Ur (e.g., Moortgat 1969: pls. 15–16; Strommenger 1962: no. 28). Another was a variety of semiprecious and precious stones, usually worked as inlays, beads, pendants, or amulets. Most prominent among these are carnelian and agate, which could have originated in sources in western India or central Afghanistan (Allchin 1979), but are also found in the central plateau of Iran. The greatest diversity and number were recovered in the Sammel-fund (Heinrich 1936:41–41), although exotic stones were also common in earlier contexts at Susa (Le Brun 1978a; Steve and Gasche 1971) and Warka. The contents of the Riemchengebäude, for example, included a unique thronelike chest intricately inlaid with variously colored limestones, alabaster, and lapis (Lenzen 1959). Various exotic stones were also common at Brak, where they were used for small amulets and seals and for architectural decoration in the Eye Temple frieze (Mallowan 1947).

In the same way that the location of Uruk outposts in the Zagros and the distribution of Uruk artifacts in Iranian sites are suggestive of the importance for Uruk societies of resources from the Iranian central plateau, the location of Mesopotamian enclaves in the Upper Tigris, Upper Khabur, and Upper Euphrates areas of Syro-Mesopotamia within easy reach of routes in and out of the highlands of southeastern Anatolia and northwestern Iran is surely indicative of the importance of resources from those regions. No doubt, some of the most important of those resources were timber and wood products—essential though difficult-to-trace commodities. The Kurdish highlands of easternmost Anatolia and Iraq were still heavily forested in the fourth millennium B.C., and exploitable species in the area included pines, junipers, and oaks (Zohary 1973:188–98; Willcox 1992). Zagros timber floated down the Tigris and its various tributaries may help explain Nineveh, although admittedly we still lack direct evidence for the exploitation of wood resources from the Zagros in the Uruk period. We are on firmer ground, however, in the case of Anatolia. Historically, the headwaters of the Euphrates in the southeastern Taurus represented a crucial source of timber for societies in the tree-

poor Mesopotamian alluvium. This role is explained by transportation constraints: trunks cut in the Malatya area could easily and cheaply be floated south on the river (Rowton 1967). While we still lack conclusive evidence, it is probable that the export of wood resources from the Euphrates headwaters to the alluvial market may have begun in the Uruk period in order to meet the architectural requirements of rapidly growing Uruk urban centers (Margueron 1992). There is some, admittedly circumstantial, paleobotanical evidence to support this assumption. A recent study of carbonized materials from archaeological contexts in the Keban/Altınova region has concluded that a gradual process of deforestation took place in antiquity and that the process had its onset in the Late Chalcolithic period (Willcox 1974), which correlates with the establishment of Uruk enclaves in the northern plains.

In addition to wood, a number of base and precious metals are also obtainable in the eastern Taurus, including copper, silver, lead, and gold. The importance of the Keban/Altınova and nearby Ergani areas as a potential source of metal ores or finished metal products for southern Mesopotamian societies is underscored by recent explorations into the metallurgical resources available in those areas and their possible exploitation in antiquity (de Jesus 1980; Yener 1983; Seeliger et al. 1985). In fact, recent excavations in the Keban/Altınova region indicate that those resources were being exploited already in the late fourth millennium. As previously noted, substantial evidence for the smelting of copper has been uncovered in Late Chalcolithic levels of excavated sites in the eastern Taurus. An Anatolian origin for some of the copper found in Uruk sites in the alluvium is thus a distinct possibility, particularly since copper implements were common in some of the northern Uruk enclaves, such as Habuba-süd (Strommenger 1980a), Jebel Aruda (van Driel and van Driel-Murray 1979), and Tell Brak, where copper was used for paneling portions of the walls of the central sanctuary of the last Eye temple (Mallowan 1947:32).

Similarly, the important polymetallic mines in the Keban/Altınova area (Yener 1983; Seeliger et al. 1985) constitute a likely source for Mesopotamian silver and lead in the Uruk period. Numerous silver objects in Late Chalcolithic graves at Korucutepe, not far from the Keban mines, underscore the fact that the silver sources of the area were being extensively exploited at the time of the Uruk expansion (Brandt 1978; van Loon 1978), and silver is attested in the nearby Uruk enclave at Brak in the Upper Khabur (Mallowan 1947:95). Almost certainly also of Anatolian origin are lead artifacts from northern contexts. One example is a lead bowl from Uruk-period deposits at the small site of Umm Qseir along the Lower Khabur in Syria (Hole and Johnson 1986/87:183). Gold, too, was procurable in the eastern Taurus (Maxwell-Hyslop 1977), and the presence of significant amounts of this metal in the Eye Temple frieze at Brak (Mallowan 1947:93) suggests that Anatolian sources were being exploited for the Uruk market. Finally, another possible import into the alluvium from the eastern Taurus was obsidian. Numerous obsidian bladelets were found in the Riemchengebäude (Lenzen 1959) at Warka. Also dated to the Uruk period is a cache of fine obsidian vessels recovered in layers under the White Temple, also at Warka (Heinrich 1937: pl. 59; Jordan 1932: pl. 20A). A number of those vessels closely resemble examples found in Late Chalcolithic tombs at Tepe Gawra (cf. Tobler 1950: pl. LIIIB-C) and may have been imported as finished products.

While it is likely that both the Habuba/Qannas and the Birecik-Jerablus clusters may have had a role in the control of bulk downstream river traffic from the Anatolian highlands to the alluvium, it should also be remembered that those sites were also oriented toward overland routes across the Syrian Saddle and the west. This orientation suggests the possible exploitation of resources from Southwestern Anatolia and from the Lebanon/Anti-Lebanon and Amanus ranges. The Amanus region was, of course, an important source of wood in the third millennium (Rowton 1967). The great Akkadian king Naram-Sin is the first recorded of many Mesopotamian rulers who sent expeditions to collect prized cedars from Lebanon (Hirsch 1963), but it is not yet possible to ascertain whether the considerable wood resources of the Amanus and Lebanon

ranges were already being logged in Uruk times. Recent discoveries of polymetallic mines in the Bolcardağ region of the Taurus near the Cilician gates may also be relevant, particularly since those resources were already being mined in Late Chalcolithic times (Yener et al. 1989:491). Although we have no direct evidence of the exploitation of Bolcardağ metal ores for the Mesopotamian market, the already noted presence of scattered ceramics of Uruk type in the plain of Antioch and along the Ceyhan River basin does suggest some measure of contact between local communities controlling access to the Amanus and western Taurus resources and Uruk settlements on the Euphrates.

In addition to the resources already discussed in connection with specific routes, other imported materials may be documented in the archaeological record of Uruk sites which cannot be tied to any specific source. One such commodity was bitumen, which is obtainable from natural seepages at various locations in southwestern Iran at the foot of the Zagros, in the Middle Euphrates region in the vicinity of Hit, and in the Upper Tigris region near Mosul and Kirkuk (Marschner and Wright 1978). Bitumen was made into asphalt by mixing it with mineral and vegetable matter and used as mortar and for general waterproofing in architectural contexts. Extensive amounts of asphalt were used in Uruk structures at Warka (Heinrich 1937) and Tell Uqair (Lloyd and Safar 1943).

Common stones represent another imported commodity that often cannot be tied to any specific source. One such stone was gypsum, widely available in deposits across the Zagros/Taurus foothills (H. T. Wright, pers. comm. 1992) and in exposed bluffs along the courses of the Tigris and Euphrates rivers in northern Mesopotamia and southeastern Anatolia (H. E. Wright 1955:85). In the Uruk period, but not commonly thereafter, gypsum was heated to make a kind of plaster that was used on the walls of important buildings. More rarely, gypsum plaster was also fashioned into cones and employed as wall decoration in monumental architecture, as at Eridu (Safar, Lloyd, and Mustafa 1981:240). Finally, gypsum plaster was also used for making common bricks and mortar, which were

then used to erect buildings. This peculiar practice is attested at a number of sites (Warka, Eridu, Tell Uqair, Ur, and Mereijib; cf. Hout and Maréchal 1985) and suggests that supplies of imported gypsum were particularly abundant in alluvial centers during Uruk times. Substantial quantities of limestone boulders were also brought into Uruk cities. These boulders were used for building purposes, a practice again only rarely attested after Uruk times. A number of important Uruk public buildings at Warka, for example, had stone foundations and one unique and apparently subterranean structure (*Steingebäude*) appears to have been built entirely of stone (Boehmer 1985). Similarly, limestone boulders were used for the revetment façade of the platform of successive Uruk public buildings at Eridu (Safar, Lloyd, and Mustafa 1981). Limestone was obtainable from sources in the western desert not far from Warka and Eridu (Boehmer 1985). However, the possibility that limestone could have been quarried from outcrops across the Syro-Mesopotamian plains and shipped down the Tigris or Euphrates cannot be discounted, particularly in light of the advantages of water transport for the movement of goods that are heavy or bulky.

Another stone import was flint. It is widely available as nodules in the western desert and is also obtainable in the Zagros piedmont and across the northern plains. It must have been imported as raw material for the local production of tools. This can actually be demonstrated at Warka, since a number of cores and matching trapezoidal blades were found in the *Reimchengebäude* (Eichmann 1987). More easily traced, however, are distinctive flint implements imported as finished artifacts. Tabular serapers, for example, are attested in many contemporary Levantine sites and can be shown to have been manufactured for export in the Negev (Rosen 1983). Scattered examples are reported in such widely separated sites as Jebel Aruda in Syria and Chogha Mish in Khuzestan (Sürenhagen 1986a:19–20). Also reported at Aruda are Canaanite blades of nonlocal manufacture (Hanbury Tenison 1983). These may have been imported from the Upper Euphrates in Anatolia, since specialized workshops producing Canaanite blades for regional distribu-

tion were identified at Hassek Höyük, the Uruk station north of Samsat (Behm-Blancke et al. 1984:35). Almost certainly also imported as finished tools were a variety of small blades of rock crystal found as part of the already mentioned cache of chipped-stone artifacts in the Reimchengebäude (Eichmann 1986).

Other exotic stones of uncertain provenance were also imported in the Uruk period. Rarer varieties include colored and bituminous limestones, quartz, chalcedony, amazonite, amethyst, diorite, aragonite, rock crystal, and jasper (Heinrich 1936). More frequent though still rare are translucent stones such as fine alabaster and gypsum, its closely related but coarser variant. At its most spectacular, alabaster was used for carved ritual objects such as the famous vase from the Sammelfund at Warka (Moortgat 1969: pl. 19), the trough from Warka now in the British Museum (Moortgat 1969: pls. 17–18), and the hundreds of “eye” amulets at Brak (Mallowan 1947: pl. XXV:1–9). More common in Uruk sites are cylinder seals (Asher-Greve and Stern 1983) and diverse utilitarian and votive objects made of calcite or marble. These are broadly distributed in sites in the alluvium and Khuzestan and in Uruk enclaves and outposts across the periphery. Included are solid weights or mace heads(?) with characteristic cruciform grooves (fig. 38A–C), various animal-shaped amulets and stamp seals (e.g., fig. 38D–I),<sup>14</sup> and assorted containers and theriomorphic vessels (e.g., fig. 38J–M).<sup>15</sup> The remarkable uniformity of these distinctive artifacts across such widely separated areas is striking and suggests the existence of specialized centers devoted to the production of standardized products for export tailored to the needs of Mesopotamian states in the fourth millennium in a manner reminiscent to the later mid-third millennium trade in carved “intercultural style” chlorite/steatite vessels studied by Kohl (1978, 1979). If so, such manufacturing centers could possibly be located near known calcite and quality gypsum deposits in the central plateau of Iran (Beale 1973), or in sites in Khuzestan such as Susa (Le Breton 1957:109) or Tal-i Ghazir, where Henry Wright (pers. comm., 1992) observed

numerous unfinished stone bowl fragments littering the surface of the site.

Some evidence for cross-cultural trade in finished stone vessels between the Iranian plateau and the Mesopotamian world does exist in the Uruk period. Among the Banesh period sites surveyed by Alden in the Kur River basin was one site (8G38) dated to the Early and Early-Middle Banesh phases which appears to have served as a local distribution center and as a transshipment point for stone vessels between the Iranian east and Susiana in Uruk times. This may be inferred from a number of clues. First, precise parallels may be drawn between vessels found at the site and vessels from Uruk levels in Khuzestan and the Mesopotamian alluvium.<sup>16</sup> Second, on the surface of the site were found hundreds of bowl fragments made of stones not locally available, but there were few joins, suggesting that the bowls were broken elsewhere and discarded haphazardly at the site. Last, traces of debitage were not found at the site, indicating that the bowls were made elsewhere (Alden 1979:114).

Other widely distributed semiprecious and common stones were also imported in the Uruk period for conversion into objects of artistic expression, ritual vessels, utilitarian implements, and the like. Minimally, these include (1) basalt of southeastern Anatolian (Karacadağ area) or northern Syrian (Jebel Haas) origin (Meyer 1981:25–26), which was sometimes used for relief sculpture, for example, the famous Warka Lion Hunt stele (Moortgat 1969: pl. 14), and more frequently, for the manufacture of grinding stones and related ground-stone artifacts; (2) bituminous limestone from oil-bearing layers in the highlands of Iran and northern Iraq, used for ritual vessels, such as are commonly found in association with religious architecture at Warka (e.g., Heinrich 1937: pl. 60; 1938: pl. 29A), and for sculpture in the round, such as a naturalistic ram's head from Warka assignable to the Uruk period on stylistic grounds (Moortgat 1969: pls. 22–23); (3) marble, which is found in the Syrian desert but is more common in the Zagros and the central plateau of Iran (Beale 1973) and was used for ritual vessels (e.g., Lenzen 1958: pl. 40A–B) and, once

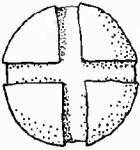
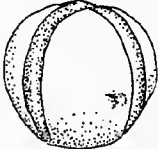
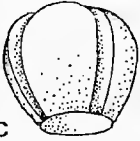
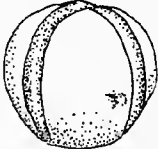
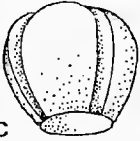
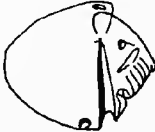






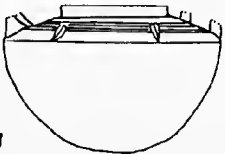
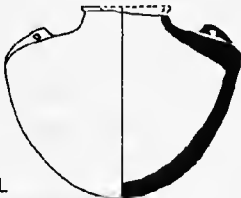
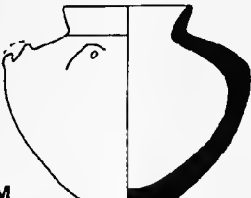
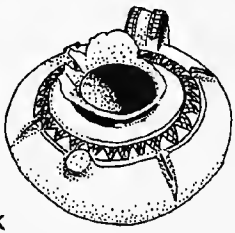
SUSIANA	M. ALLUVIUM	N. ENCLAVES
<b>WEIGHTS</b>   		
<b>SEALS/AMULETS</b>   	 	 
<b>VESSELS</b>  		

Fig. 38. Selected parallels in stone artifacts between Uruk sites in the Susiana plain, the Mesopotamian alluvium, and Syro-Mesopotamia (not to scale).

TABLE 3. Possible Origin of Resources Imported into the Mesopotamian Core in the Uruk Period

Resources	Amanus (via Habuba)	Western Taurus (via Euphrates enclaves)	Eastern Taurus		Syro-Mesopotamian Plains (via Northern enclaves)
			(via Euphrates enclaves)	(via Brak/Nineveh)	
LABOR					
POW/slaves					x
WOOD					
Timber	x?		x		
METALS					
Copper			x	x	
Silver/lead		x	x	x	
Gold				x?	
PRECIOUS STONES					
Lapis			x		
Carnelian					
Agate					
Chalcedony					
Amazonite					
Amethyst					
Aragonite					
Jasper					
Other					
SEMIPRECIOUS STONES					
Chlorite					
Obsidian		x		x	
Rock crystal					
Quartz					
Alabaster					x
Gypsum				x	x
Marble					
Diorite					
Serpentine					
B. limestone					x
COMMON STONES					
Basalt					x
Limestone					x
Raw flint					x
Flint tools					x
OTHER					
Bitumen					x

Note: \* = Afghan origin.

again, for plastic art, such as the celebrated female head from Warka (Moortgat 1969: pl. 26); and (4) variously colored serpentine of unknown origin, used for beads and amulets and for stamp and cylinder seals (Asher-Greve and Stern 1983; Brandes 1979).

A further possible import into the alluvium from the periphery was dependent labor, either slaves acquired in exchange for other goods or, more likely, prisoners of war. The signs for male

and female slaves can be recognized already in the Archaic Tablets from Warka, and it is noteworthy that these early slaves are specifically stated to be of foreign origin (i.e., from the mountains) (Vaiman 1976:24). Admittedly, as Weiss (1989) notes on the basis of Gelb's (1976) research, foreign slaves were never the primary component of the public sector work force in Mesopotamia throughout the historic periods. Nevertheless, foreign slaves were indeed occasionally used as dependent workers in the ser-

(via Kurdistan, Nineveh)	Iranian Central Plateau		Southeastern Iran (via Susiana)	Southwestern Iran (via Susiana)	Western Desert (direct)	Unknown Provenance
	(via Khurasan Road, direct)	(via Sialk Susiana)				
x?						
x	x	x	x			
x?*	x?	x x?	x?			
x*	x*	x* x x	x*			
					x x x x x x	
x		x				
	x	x			x x	
x	x	x	x			
x	x	x				
					x x	
			x			
				x	x x	
			x			

vice of the state, particularly in the case of prisoners of war early after their capture (Gelb 1973).

Available evidence for peripheral resources known to have been imported by Uruk societies and suggestions as to their various sources is summarized in table 3.

Many of the imports enumerated in the preceding discussions are attested in the archaeological record of sites in southern Mesopotamia for centuries, if

not millennia, preceding the Uruk period. What is new in the late fourth millennium, then, is that the variety—and presumably quantity—of imported commodities increased, a result no doubt of the establishment of a network of Uruk enclaves and outposts at strategic locations outside of the Mesopotamian core area. At its peak, this network must have exercised considerable economic power in terms of the overall long-distance trade economy of the Syro-Mesopotamian plains and the immediately

surrounding highlands. Uruk states in Khuzestan must have played a similar role in relationship to the eastern Iranian highland periphery. These roles presume that to some degree indigenous communities across the periphery were willing to participate in the wider exchange network established by the intrusive Uruk settlements.

But in addition to their role in interregional exchange, the Uruk enclaves also may have participated in intraregional trade within the periphery. This is suggested by the Uruk bottles in storerooms at Arslan Tepe VIA. Unless one presumes that the jars were imported for their perceived intrinsic value, the vessels furnish evidence for Uruk involvement in the circulation of valuable liquids, most probably wine or oils. But if so, these commodities must have originated in some of the Uruk enclaves across the north, since neither wine nor oils were commonly exported from the alluvium (Pettinato 1972). The most likely candidates for this role are the various enclaves alongside the Euphrates. These installations, it has been argued, must have had access to grain from inland Syria to ensure their survival, and wine and oils from the Gaziantep-Aleppo region, a traditional producer,

could well have formed part of the commodities brought in. These prized liquids could then have been shipped downstream to the alluvium and repackaged for export across the north—as indicated by the Arslan Tepe evidence. Later textual documentation from Mari provides a possible parallel: in the early second millennium, Mari served as an indigenous riverine entrepôt and had a role as a collection, repackaging, and transshipment point for agricultural products from the Aleppo area to the west (Finet 1969: 44).

Details of the relationship between the intruding settlements and the preexisting Late Chalcolithic communities must remain hazy, however, in light of limitations inherent in the interpretation of the purely archaeological evidence at our disposal. Nevertheless, it is possible to speculate on that relationship by contrasting the evidence just discussed for the nature, strategic rationale, and function of the Uruk enclaves in the north with what evidence is available for the nature of indigenous Late Chalcolithic communities in the midst of which they were established. That evidence will now be reviewed.



## The Late Chalcolithic Period in Syro-Mesopotamia

Compared to the information available about southern Mesopotamian settlements in the north, relatively little is known of indigenous communities that were already in place at the time of the Uruk intrusion. Excavations in Late Chalcolithic sites in Syro-Mesopotamia have been limited, and as a rule only restricted exposures have been obtained, except at a few sites such as Tepe Gawra, Qalinj Agha, and Grai Resh. More informative, although not always entirely comparable, are data on regional settlement patterns derived from a variety of surveys in some portions of the Syro-Mesopotamian plains. However, before the evidence for the nature of local communities in the north can be considered, it is necessary to review the chronological relationship between the indigenous and intrusive settlements, since only then will it be possible to explore the impact of the Mesopotamian intrusion on local communities.

### CHRONOLOGY

Until recently, all that was known on the chronological relationship between the Uruk intrusion and the preexisting Late Chalcolithic cultures was derived from excavations at a few far-flung sites across the Syro-Mesopotamian plains. The key sequence was that of Kuyunjik, the larger mound of Nineveh, near Mosul, explored by British archaeologists dur-

ing the late 1920s and early 1930s (Campbell Thompson and Hutchinson 1931; Campbell Thompson and Hamilton 1932; Campbell Thompson and Mallowan 1933).<sup>1</sup> Excavations in the Ishtar Temple area and a nearby deep sounding revealed at least 14 meters of deposits spanning the Late Chalcolithic (Ninevite III) and Uruk (Ninevite IV) periods and the transition to the Early Bronze Age (Ninevite V). Within this sounding, the relationship between the indigenous Late Chalcolithic assemblage, with its chaff-tempered pottery and stamp seal-based glyptic tradition, and the Uruk-period assemblage, with its unmistakable grit-tempered, mass-produced ceramics and cylinder seal-derived glyptic, appeared to be disjunctive: the preexisting materials were replaced by the intrusive southern Mesopotamian assemblage.

Juxtaposed to the Late Chalcolithic sequence of Nineveh, stood the sequence from the nearby and presumably contemporaneous, but much smaller, site of Tepe Gawra, excavated by an American expedition only a few years after excavations at Nineveh had been completed (Speiser 1935; Tobler 1950; Rothman 1988). In great measure, Tepe Gawra's importance stems from the fact that it was (for its time) carefully excavated, recorded, and published. It provides a broad exposure of Late Chalcolithic levels, much broader in fact than that

attained in comparable levels at Nineveh. But in contrast to the latter site, where extensive connections with Uruk-period Mesopotamia could be traced, Tepe Gawra exhibited a local assemblage that was seemingly unrelated to the southern Mesopotamian materials documented at Nineveh.

The antithesis revealed by sites such as Nineveh and Gawra was repeated at other sites and regions of the Syro-Mesopotamian plains. The strong Uruk connections that could be observed at Nineveh appeared to be similar to those uncovered at Tell Brak only a few years after the end of excavations in the Tigris area.<sup>2</sup> But in apparent contrast to the evidence from Brak stood archaeological sequences from several sites with Late Chalcolithic deposits in the Syrian Saddle excavated at about the same time, principally Tabara el-Akrad (Hood 1951), Tell Atçana (Woolley 1955b), Tell es-Sheikh (Woolley 1953), Tell Judeidah, and Tell Dhabab (Braidwood and Braidwood 1960), all in the Antioch region, and Caba Höyük east of Gaziantep (Du Plat Taylor, Seton Williams, and Waechter 1950). The most informative of these sequences was that derived from Oriental Institute soundings at Tell Judeidah (Braidwood and Braidwood 1960). Exposures into pertinent levels at this site yielded a local chaff-tempered assemblage similar, in fact, to that of Late Chalcolithic levels of Nineveh (Ninevite III) and Gawra (XI–VIII). However, as noted in the preceding chapter, a few isolated Uruk types were also identified in the assemblage.

In short, the various strands of evidence just enumerated presented a seemingly confused picture of the chronological relationship between Late Chalcolithic and Uruk sites in the Syro-Mesopotamian plains: did the two assemblages mark contemporaneous but mutually exclusive phenomena as the contrast between Nineveh and Gawra appeared to signify, did they represent two contemporaneous and interacting traditions as the evidence from the Antioch area seemed to indicate, or did they mark different stages along a single continuum of cultural evolution, as the Nineveh sequence appeared to suggest? This confusion is exemplified in Speiser's attempt (1935:153) to cor-

relate the Late Chalcolithic sequence of his own site, Tepe Gawra, with that of the neighboring site of Nineveh, which he correctly observed did not match. Speiser's correlation problem was not archaeological but conceptual, and it disappears once the entirely different nature of the two sites being compared is realized. However, that realization had to wait until a significant amount of new research had been undertaken.

The chronological relationship between indigenous Late Chalcolithic sites in the north and sites with an overwhelming southern Mesopotamian component was clarified only recently by new research in the Atatürk Dam area of the Euphrates in southeastern Turkey, where the two assemblages were found for the first time in clear association in carefully controlled excavations. Particularly important are excavations at Hassck Höyük and Kurban Höyük, both by the river, but some 60 kilometers apart. Of the two sites, Hassck Höyük, a small Uruk station alongside a river ford, has yielded a broader exposure, but no sequence. As noted in chapter 3, the single Uruk phase at Hassck was founded directly over natural soil. That phase, however, is of considerable importance for chronology because in it elements of Uruk material culture appear side by side with a local Late Chalcolithic assemblage, making it clear that the assemblages are at least partially contemporaneous. The ceramics, for example, include a number of typical Uruk types (fig. 39),<sup>3</sup> but these represent only a portion of the total ceramic assemblage at the site, which contains in addition a substantial component of indigenous Late Chalcolithic chaff-tempered forms.<sup>4</sup> The glyptic evidence from Hassck is similarly mixed: a few stamp seals of local style are found together with provincial cylinder seals of Mesopotamian type.<sup>5</sup> Other artifacts at the site, however, are of unmistakable Uruk derivation. As will be recalled, the central structure of the settlement is of Uruk type and finds precise parallels at Habuba Kabira-süd (fig. 23A–B above). This was decorated by means of terra cotta wall cones and plaques imitating cones (Behm-Blancke 1989)—types of architectural decoration frequently found in Uruk

public structures.<sup>6</sup> Similarly, a cylinder seal impression depicting a griffin does so in a style typical only for Uruk-period glyptic and without doubt was impressed by an actual Mesopotamian seal (Behm-Blancke et al. 1984: pl. 12:5). Other typical Mesopotamian small artifacts at the site include an eye idol (Behm-Blancke et al. 1981: pl. 12:5).

The key sequence for the Late Chalcolithic period in the Atatürk Dam area, however, is that provided by recent Oriental Institute excavations at Kurban Höyük, an indigenous site in the vicinity of Samsat, where five superimposed phases of the Late Chalcolithic period were delineated. The site thus offers what no other Syro-Mesopotamian site along either the Euphrates or Khabur has yet produced: a stratified sequence that not only correlates

with the onset of Uruk influence in the area, but predates it as well.<sup>7</sup> Since the site has been described in greater detail elsewhere (Algaze et al. 1990), only a brief summary of the pertinent evidence for the Late Chalcolithic period is necessary here.

Kurban Höyük is a double-coned multiperiod site with a maximum extent of about 6 hectares. It is located some 7 kilometers away and on the opposite bank of the river from Samsat. The principal occupation of the site dates to the second half of the third millennium B.C. and there is a considerable depth of deposits directly over Late Chalcolithic levels. Thus, only relatively small exposures of the latter period were practicable. Pertinent strata were recovered in all three of the widely spaced vertical

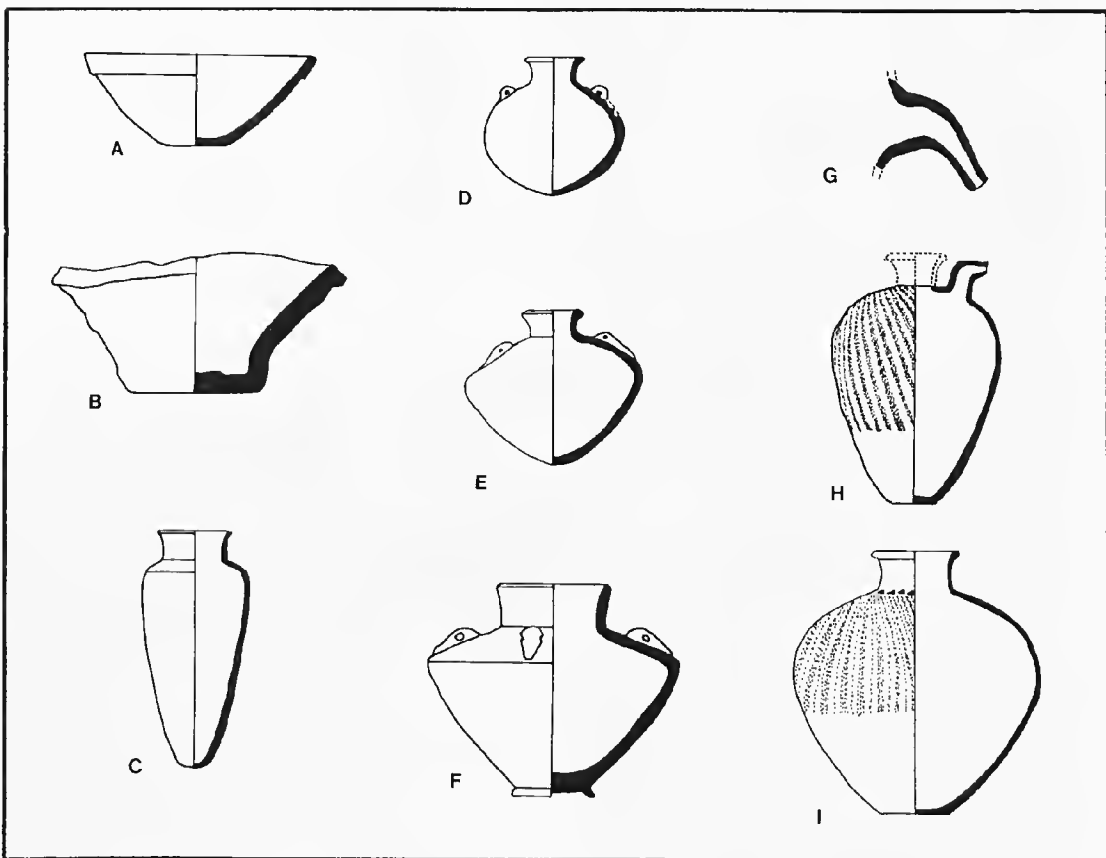


Fig. 39. Selected Uruk ceramics from Hassek Höyük (not to scale).

operations opened—Area A, a  $3.5 \times 60$  meter step trench on the northern flank of the higher south mound; Area C01, a  $3 \times 9$  meter sounding in the center of the lower north mound; and Area F, a  $4 \times 4$  meter sounding on the saddle area between the two mounds—but actual occupational deposits were identified only in Areas A and C01 (fig. 40).

Of the three areas mentioned, a sequence for the Late Chalcolithic period was recovered only in Area A, where some 1.9 meters of deposits were cleared over an area of some 30 meters square, for a total approximate excavated volume of 58 cubic meters. Five Late Chalcolithic phases were distinguished. The earliest was difficult to define, since it

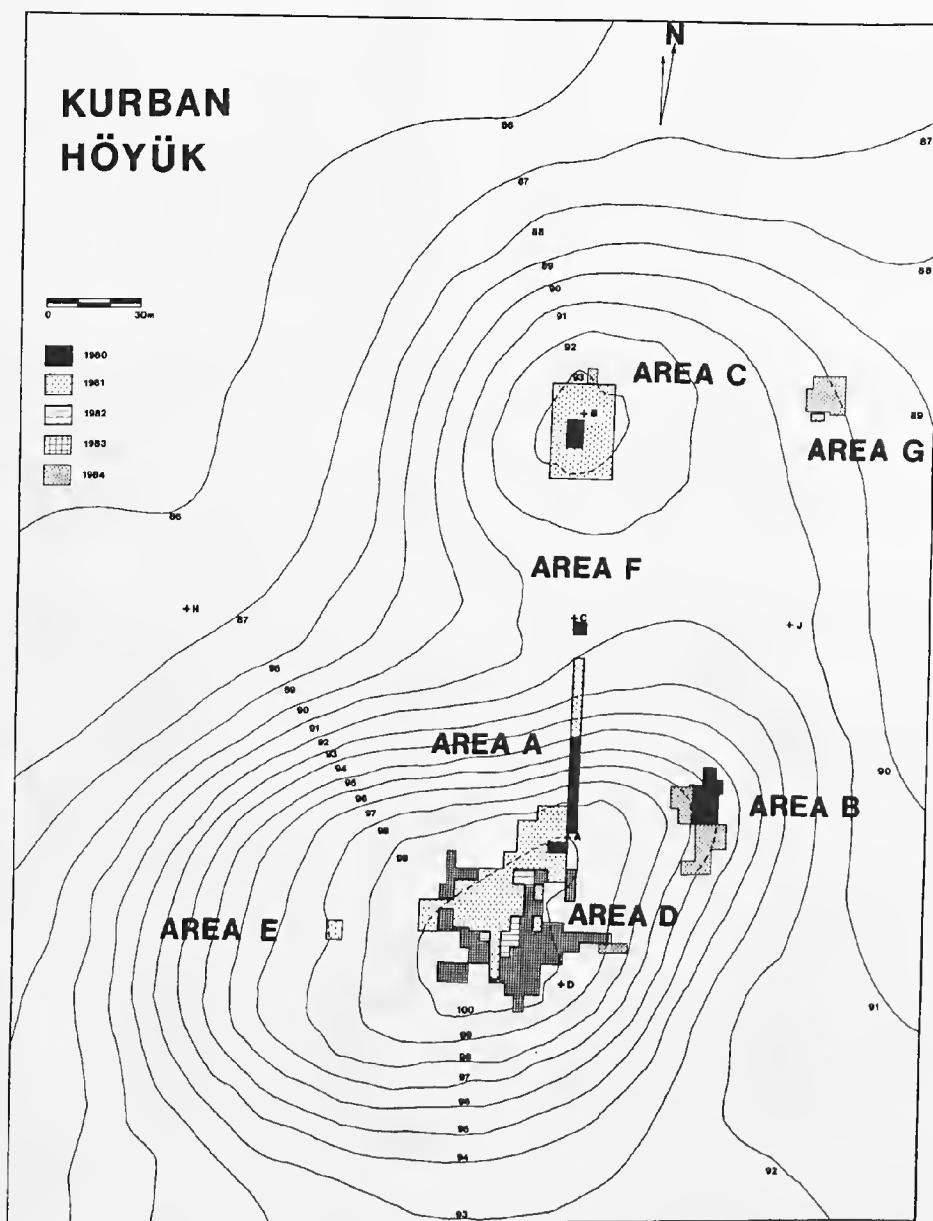


Fig. 40. Plan of Kurban Höyük showing location of excavated areas.

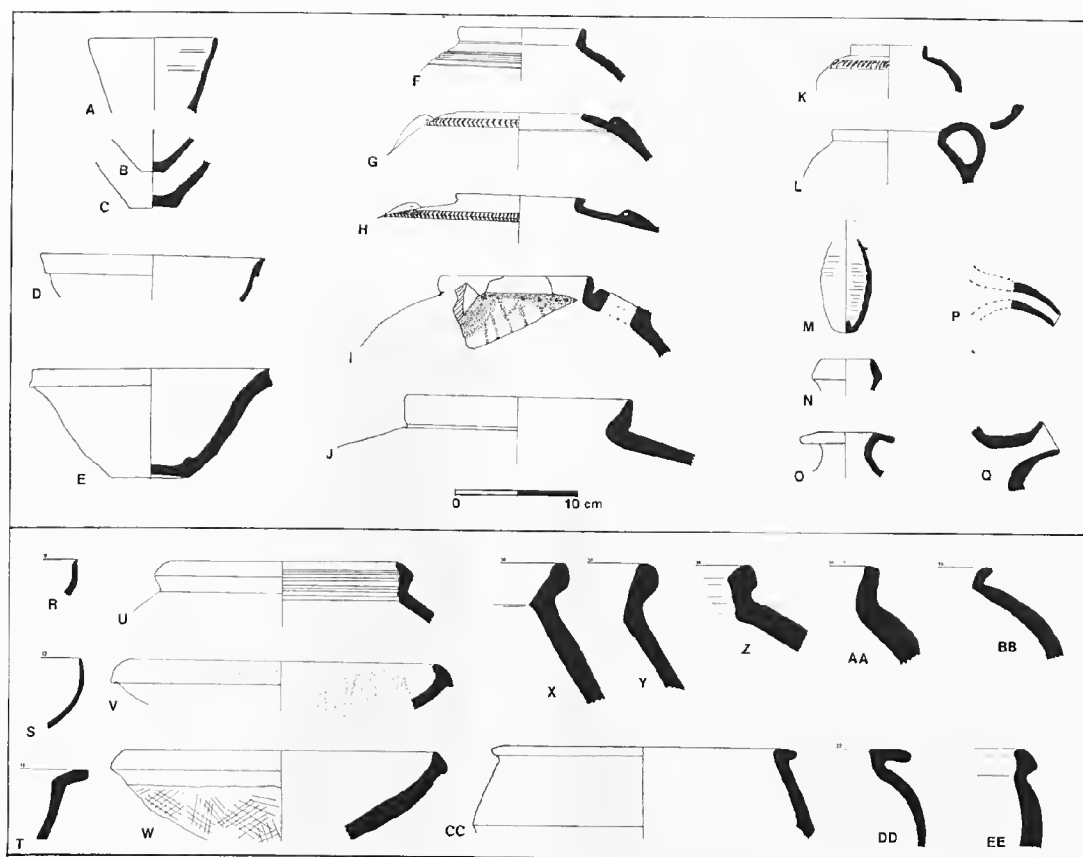


Fig. 41. Selected Uruk (A–Q) and indigenous chaff-tempered (R–EE) ceramics from Late Chalcolithic levels at Kurban Höyük.

consisted of layers of featureless fill associated with an exterior surface on which a hearth was found. The succeeding phases directly above, however, were easier to identify and were characterized by more substantial architecture. Unfortunately, the functional nature of the remains in these latter phases is unclear, since only fragments of the structures were exposed in the narrow trench. However, a clear sequence of superimposed walls and associated interior floors and outdoor surfaces was obtained.

The earliest of the five Late Chalcolithic phases in Area A (Phase 6: Period VIB) was characterized by an indigenous assemblage composed overwhelmingly of chaff-tempered ceramics of the type first defined by Braidwood in the Amuq (fig. 41T–EE) and a very small component of grit-tempered

pottery in a limited repertoire (e.g., fig. 41R, S).<sup>8</sup> Typical Uruk pottery in that phase appears only in statistically insignificant amounts and is presumed to be intrusive.<sup>9</sup> In the succeeding four phases (Phases 7–10: Period VIA), however, a variety of ceramics of unmistakable southern Mesopotamian derivation were introduced and are found in generally increasing proportions, although the indigenous chaff-tempered forms first encountered in the lowest level continue to be produced. Among the characteristic Uruk types in these later phases are many of the same types attested at Hassek Höyük. These include beveled-rim bowls (fig. 41E), four-lugged jars (fig. 41G–H), strap-handled jars (fig. 41F, K–L), drooping and trumpet-shaped spouts (fig. 41P, Q), ovoid spouted jars with diagonally reserved slip decoration (fig. 41I), elongated spouted

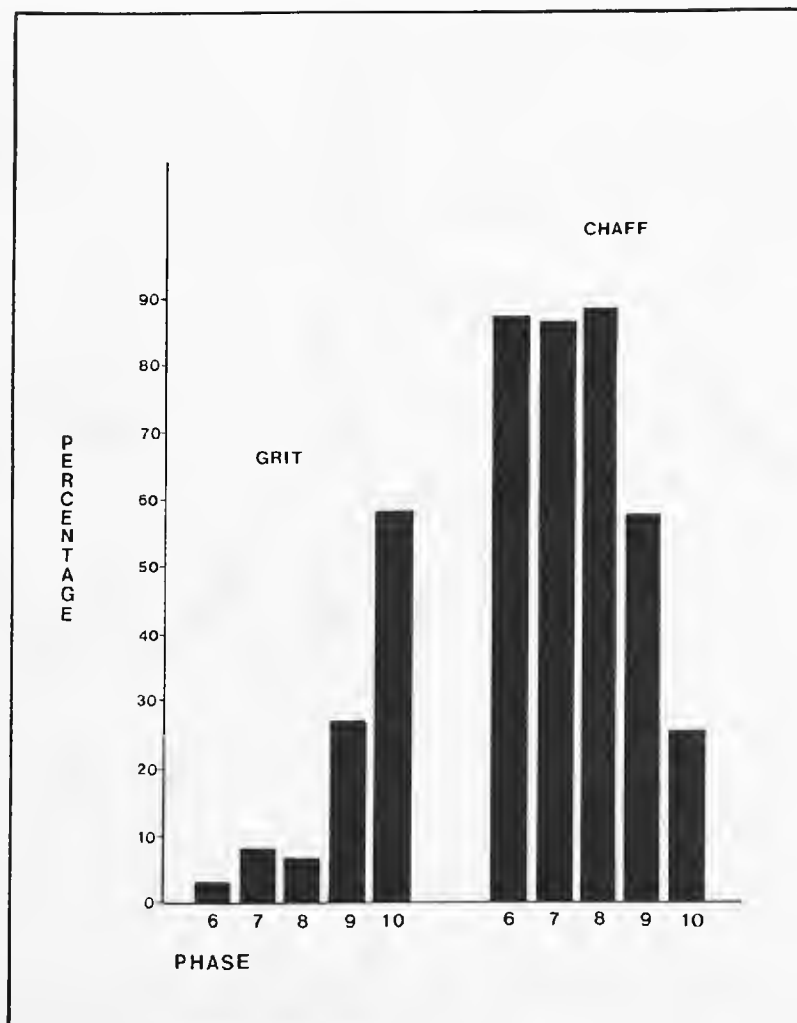


Fig. 42. Relative frequencies (by weight) of indigenous chaff-tempered and plain simple wares in Late Chalcolithic Levels of Area A at Kurban Höyük, Phases 6–10 (Phase 6 = earliest).

bottles with restricted mouths (fig. 41M–O), storage-sized jars with undercut rims (fig. 41J), conical cups with string-cut bases (fig. 41A–C), and band-rimmed bowls (fig. 41D).

A measurable change may be discerned in the ceramic assemblage of the four phases assigned to Period VIA: with each successive phase, the relative proportion of grit-tempered ceramics, many of them of southern affiliation, increases, while that of the indigenous chaff-tempered forms decreases. By the two latest phases, the grit-tempered assemblage

actually becomes more common than the chaff-tempered tradition it replaces. The pertinent data have been summarized in figure 42, which details the relative frequencies by weight of the indigenous chaff-tempered assemblage in relationship to the exogenous grit-tempered tradition for each of the Area A Late Chalcolithic phases at Kurban Höyük (Algaze et al. 1990).

The evidence from Kurban Höyük's Area A expands that from Hassek Höyük insofar as it indicates that an indigenous Late Chalcolithic occupa-

tion existed in the Atatürk Dam area prior to the onset of contacts with Uruk polities. Moreover, the Kurban data are in agreement with those from Hassek in showing the partial contemporaneity of Late Chalcolithic sites in the north and the process of Uruk expansion into the area. Had the deep sounding in Nineveh's Ishtar Temple area been excavated with greater care, this conclusion could have been apparent long ago. That the emerging sequence of the Late Chalcolithic period in the Atatürk basin is representative of Syro-Mesopotamia as a whole, and even of the highlands, is shown by recent evidence from the Italian excavations at Arslan Tepe in Malatya, the Yale University excavations at Tell Leilan in the Upper Khabur, and by a reinterpretation of older excavations conducted by the Oriental Institute at Tell Judeidah.

At Arslan Tepe, the earliest Late Chalcolithic level (Period VII) revealed an Amuq F-related assemblage similar in many ways to that from the lowest phase of the Late Chalcolithic period at Kurban Höyük—both assemblages are overwhelmingly chaff-tempered and have only trace amounts of plain simple-ware ceramics, none in typical Uruk styles. By the succeeding excavated level at the site, Period VIA, however, the earlier chaff-tempered assemblage has been replaced by a mixed assemblage in which are found an important regional red/black burnished-ware component as well as a local mass-manufactured plain simple-ware industry with some clear Mesopotamian affinities (Palmieri 1973, 1981; Frangipane and Palmieri 1988). Also found in association were a number of unmistakable Uruk pottery types discussed in chapter 4 (fig. 33). Some of these types, as Sørenhagen (1985) has noted, are surely imported. The nature of the transition between Periods VII and VIA at Arslan Tepe is unclear, since a stratigraphic connection is still lacking. Nevertheless, in its main outlines, the sequence from Arslan Tepe parallels that from Kurban Höyük in that at both sites a chaff-tempered assemblage of the Amuq F type is replaced by a mass-produced ceramic tradition in which some degree of Mesopotamian influence may be discerned.

Recent excavations at Tell Leilan provide a complementary corpus of materials that underscores the long *in situ* development that indigenous Late Chalcolithic sites had prior to the onset of contacts with alluvial Mesopotamia. At Leilan, the Operation 1 step trench has revealed a significantly longer sequence of Late Chalcolithic deposits than that of Kurban Höyük. Seven layers (Period V: Strata 44–51) were characterized by a chaff-tempered assemblage of the Amuq F type with only small traces of grit-tempered ceramics. This assemblage is thus immediately comparable to that of the lower phase of Late Chalcolithic deposits at either Kurban (Period VIB) or Malatya (Period VII). The succeeding three layers at Leilan (Period IV: Strata 41–43) contained a similar assemblage, with the addition of beveled-rim bowls (Schwartz 1988b). Although the increase in the frequency of grit-tempered mass-manufactured ceramics in Kurban's Late Chalcolithic phases, and to a lesser degree in Arslan Tepe VIA, is not yet paralleled at Leilan, the presence of beveled-rim bowls in Leilan IV strata allows us to correlate those layers with the later phases of the Late Chalcolithic period at both Kurban Höyük (Period VIA) and Arslan Tepe (Period VIA).<sup>10</sup>

At Tell Judeidah, the local Late Chalcolithic sequence is also broadly similar to that just described for the Euphrates, Malatya, and Upper Khabur areas, although this was not immediately recognized in the original publication. Like the earliest Late Chalcolithic phase at Kurban Höyük (VIB), the Period VII materials at Malatya, and the Period V assemblage at Leilan, the lowest Late Chalcolithic floor of the JK 3 sounding at Judeidah (22) was characterized by a chaff-tempered assemblage with few traces of grit-tempered pottery. In contrast, the succeeding floor (21) yielded a mixed assemblage that recalls that of the uppermost Late Chalcolithic phases in the Kurban Höyük sequence: predominantly chaff-tempered but with a significant component of grit-tempered ceramics (13–18%) (Braidwood and Braidwood 1960:228, 264, table III). This mixed assemblage continues to characterize the following three floors in the sequence (20–18)

all assigned in the publication to the beginnings of the Early Bronze Age (Amuq G). I believe, however, that Floors 20–18 of the JK 3 sounding mark instead the end of the Late Chalcolithic period. This is suggested by several factors.<sup>11</sup> One is that, as already stated, a significant proportion of chaff-tempered Amuq F ceramics (17–23% of the total) continue into the earliest Amuq G floor (20). Another is that, like the uppermost Late Chalcolithic phases at Kurban and Period VIA levels at Arslan Tepe, Floors 20–18 of the Judeidah sounding yielded a number of typical ceramic indicators of the Uruk period, including beveled-rim bowls, drooping spouts, diagonal reversed slip, and elongated noselike lugs (fig. 36A–C above).

In sum, the evidence from Kurban Höyük, Arslan Tepe, Tell Leilan, and Judeidah helps clarify the chronological relationship between indigenous Late Chalcolithic sites in the north and the Uruk enclaves. The intrusion of southern Mesopotamian elements in the northern plains took place only after a long *in situ* evolution of local Late Chalcolithic cultures. Uruk and Late Chalcolithic sites in the north are therefore only partially contemporaneous.

#### LATE CHALCOLITHIC CULTURE AND SOCIAL INTEGRATION

Since comparatively more is known about the nature of the intrusive Uruk enclaves in the north than about the culture in the midst of which they were established, what can be said about the nature of preexisting communities is for the most part only in contrast and reference to the better-known enclaves. Those enclaves, I would contend, appear to have been significantly larger and presumably more complex socially, politically, and economically than even the largest of the indigenous sites in their vicinity. This inference is borne out by excavations and surveys across the Syro-Mesopotamian plains.

Evidence bearing on the nature of Late Chalcolithic culture and social integration in the north is at best ambiguous. From a variety of surveys and excavations across Syro-Mesopotamia, it is clear that a surprising degree of material culture homo-

geneity existed over an exceedingly broad area. This is indicated by the distribution of the distinctive chaff-tempered (Amuq F) ceramic assemblage of the period, which is found along an east-west arc ranging from coastal and northern Syria to northern Mesopotamia and the Transtigridian Plains. To the north, this assemblage extended minimally into the southern flank of the Anatolian highlands. Within this broad geographical horizon, fairly close parallels may be drawn between the ceramic assemblages of, for example, Tell Judeidah in the plain of Antioch (Amuq F), Nineveh on the Tigris (Ninevite III), and Arslan Tepe (VII) in the Malatya region of the Anatolian highlands—to mention only some of the best known and most widely separated sites. But whole areas remain virtually unknown, and comparatively few mounds have been excavated, so that a single coherent corpus of evidence that can be considered conclusive is lacking. Nevertheless, there are some indications that, at least along the Euphrates and the Syrian plains to the west of it, Late Chalcolithic sites were relatively small and dispersed.

A recent survey of the Qoueiq River basin in the environs of Aleppo conducted by Matthers and his associates, for example, shows that the area was relatively densely settled in the Late Chalcolithic period, with a total of thirty-two mounds recognized within the survey limits (Mellaart 1981: 152–53).<sup>12</sup> However, whether or not a settlement hierarchy is discernible within the surveyed area is unclear, since overall sizes are only indicated for fourteen out of eighty sites recorded, and no attempt was made to trace spatial patterns in the distribution of ceramics on the surface of the surveyed sites. Insofar as can be judged on the basis of the few locations with Late Chalcolithic remains for which topographic maps are made available in the publication, most mounds of the period appear to have been no larger than village-sized, even if all of the particular mound's surface would have been occupied at the time—an unlikely proposition at best.<sup>13</sup> Only one of the sites with a Late Chalcolithic occupation in the Qoueiq survey area is substantial: Tell Berne, a 12-hectare multiperiod settlement



composed of at least three separate mounds located near the point where the Qoueiq River is lost in salt marshes (Matthers 1981: fig. 42).

Late Chalcolithic materials have also been reported from a small number of other sites in the Aleppo region outside the limits of the Qoueiq survey. The typical chaff-tempered ceramics of the period have been recognized at the base of the important mound of Tell Mardikh/Ebla (Matthiae 1980:52), but pertinent *in situ* materials have not yet been excavated at Mardikh, and the size of the settlement at the time is unknown. Perhaps representative of conditions in the Aleppo region is the small site of Tell Abu Danné, midway on the road between Aleppo and the Euphrates River, some 25 kilometers away from the Tabqa area. Although Late Chalcolithic strata (Abu Danné VII) have only been sounded over a limited area, it is clear that the site represents an indigenous settlement which, surprisingly, appears to have been fortified (Tefnin 1979). No Uruk ceramics have been recognized in the Aleppo region, although as already noted, isolated seals carved in provincial versions of the Uruk style have been recovered from sometimes substantial sites with Late Chalcolithic remains across the border in Turkey (Tell Basher) and scattered ceramics of the period were also found in the plain of Antioch.

Conditions in the Antioch region during the Late Chalcolithic period are also not clearly discerned from available survey evidence. By all accounts, the area was densely settled at the time, since ceramics of the period were identified in at least 26 sites, ranging from smaller settlements to larger multiperiod mounds. However, it is difficult to generalize on the nature of the sites in the area, since overall site measurements are only provided for those sites that were eventually excavated, 4 out of 173 sites surveyed. For those sites, some approximation of the extent of Late Chalcolithic occupation is possible, although this may hardly be representative for the area as a whole. Some, such as Tell Judeidah, may have been fairly sizable, since Late Chalcolithic ceramics are found in cuts at opposite ends of the 9-hectare mound.<sup>14</sup> Other excavated

mounds where a Late Chalcolithic occupation was recognized, however, were much smaller, for instance, Tell Dhahab (Braidwood and Braidwood 1960:13–14).

The situation in the Atatürk basin area of the Turkish Lower Euphrates is clearer than that of either the Aleppo or Antioch regions, since detailed site measurements are available. Özdoğan's (1977) survey revealed a total of twelve sites with Late Chalcolithic remains. Nine of those twelve sites yielded evidence of both chaff-tempered Late Chalcolithic and grit-tempered Uruk ceramics. These sites thus date to the later part of the Late Chalcolithic period in the Atatürk area as revealed by excavations at Kurban and Hassek Höyük (fig. 15 above).<sup>15</sup> The remaining three sites, however, produced only chaff-tempered ceramics and no traces of Uruk types. These sites thus appear to correlate with the earliest phase of the Late Chalcolithic period in the area, once again on the basis of excavations at Kurban Höyük.<sup>16</sup> Save for Samsat, the surveyed sites with traces of a Late Chalcolithic occupation are small—even if the maximum extent of each site had been occupied at the time, as unlikely a proposition in the Atatürk area as it was elsewhere.<sup>17</sup> Of the excavated sites, Kurban Höyük was probably the largest, but it is difficult to estimate the size of the Late Chalcolithic occupation at the site with precision. Occupational deposits of the Late Chalcolithic period were reached in the two principal vertical operations at opposite ends of the mound (Areas A and C01), but were absent in the saddle area in between (Area F), making it likely that the settled area at the time was smaller than the 6 hectares maximum size of the site (fig. 40).

South of the Atatürk region along the Euphrates in Turkey, a similar situation obtained. Only a handful of Late Chalcolithic sites were identified in the Carchemish-Birecik survey area (ca. 80 sq km) and all are uniformly small. The largest and most important was Hacinebi Tepe, slightly over 3 hectares in extent. It is situated on an easily defensible limestone bluff overlooking the river just north of Birecik. Surface ceramics are overwhelmingly Amuq F in type, although a fair number of beveled-

rim bowls and a handful of grit-tempered Uruk sherds indicate connections with some of the intrusive Uruk sites in the Birecik-Carchemish area. (Al-gaze et al. 1991).

A broadly analogous situation is found in the Keban/Altınova region of the Anatolian highlands. There, however, the reliability of the data is enhanced by the availability of detailed site measurements, controlled surface collections, and the fact that a significant number of the pertinent sites were excavated to some degree. These various factors allow for more precise estimates of occupation in the Late Chalcolithic period than are possible in some of the other surveyed areas previously discussed. The pattern of occupation of the Keban/Altınova regions in the Late Chalcolithic period was not particularly intensive, with fourteen sites identified within a surveyed area encompassing some 323 square kilometers. The largest occupations were Norşuntepe and Tepecik, both of which were excavated to some degree. Neither appears to have been much larger than two hectares at the time (Whallon 1979:264, 266–68, table 11), although the extent of the early occupation at Norşuntepe was perhaps obscured by extensive later deposits at the mound.

Compared to the more coherent evidence available for the areas just discussed, little detail is known of conditions in the plains of northern Mesopotamia east of the Euphrates. Other than for Meijer's recently published survey of the Upper Khabur basin east of the Jaghjagh in northeastern Syria, surveys of the Balikh basin and of the Iraqi and Turkish sections of the Khabur and Tigris basins are either unavailable, still in progress, or only preliminarily published. It is thus unclear whether the pattern of small dispersed sites prevalent in the Aleppo region, the Atatürk Dam area, the Birecik-Carchemish areas, and the Keban/Altınova plains holds true in the northern Mesopotamian plains as well, although some evidence suggests a divergent pattern with more sharply delineated settlement hierarchies.

In great measure, the ambiguity stems from the fact that although Late Chalcolithic materials have

been excavated at a number of sites and recognized by survey in many others, there has usually been no indication in the published reports of the extent of occupation in the period at those sites. Along the Balikh, for example, Dutch excavations at Tell Hammam et-Turkman have uncovered portions of an important Late Chalcolithic monumental building capping a long sequence of earlier, apparently domestic, installations of the period, which will be discussed in greater detail in chapter 6. However, although Hammam et-Turkman was a mound of considerable importance at the time, the extent of Late Chalcolithic occupation within the 25-hectare site is unknown (van Loon 1988). Similarly unknown is the extent of the Late Chalcolithic occupation of major excavated sites along the Upper Khabur; although in those cases for which there is evidence, it appears certain that the occupations were significantly smaller than the maximum size of the sites in question. At Tell Leilan, an impressive 75-hectare site along the Wadi Jarrah, for example, Late Chalcolithic materials have only been recovered in the step trench against the acropolis of the mound. As those materials are absent from the much broader lower terrace, it is clear that the Late Chalcolithic occupation of the site could not have exceeded the size of the acropolis itself, about 15 hectares (Schwartz 1988b).

Late Chalcolithic materials have also been excavated at Grai Resh (Levels II–IV), one of the already noted sites along the southernmost flank of the Jebel Sinjar. Early British excavations at this site uncovered a small indigenous settlement with a tripartite plan house with a long cruciform central room (Level II). While the house is built in a style that resembles the central *cella* of the Eye Temple at Brak and finds general parallels at Habuba Kabira-süd,<sup>18</sup> the associated assemblage is similar to that of Leilan IV, in that beveled-rim bowls were recovered in the context of an otherwise local chaff-tempered ceramic repertoire (Lloyd 1938, 1940). Six hectares in maximum extent, Grai Resh could not have represented a sizable settlement in the Late Chalcolithic period. Yet, like Tell Abu Danné in the plains west of the Euphrates, it too was forti-

fied (Lloyd 1940:13). Further to the east in the direction of the Tigris is found the group of mounds known as Telul eth-Thalathat. Late Chalcolithic pottery, apparently early (Dunham 1983), was uncovered only in Tell II, the smallest of the mounds and less than 1 hectare in maximum extent (Egami 1958).

Excavated sites in the Transtigridian Plains with Late Chalcolithic levels also appear on the whole to have been relatively small, save for Nineveh, which was surely a mound of considerable size even before the Uruk intrusion. Pertinent materials were found at Tepe Gawra (Levels XI–VIII), Qalinj Agha (Levels III–IV), and Nuzi (L4 pit; Levels X–VII). The size range for each of the sites just mentioned appears clear. Tepe Gawra has already been discussed in some detail and seems to have represented but a small village-sized site, about 1–2 hectares in extent. Qalinj Agha, where a fairly broad exposure of the Late Chalcolithic period was obtained, is not much larger than Gawra, at most 3.3 hectares (Abu al-Soof 1985:82). Nuzi may have been slightly larger at some 4 hectares (Weiss 1983:49, fig. 11), but that presumes that most of the site was occupied at the time.

When the results of regional surveys and excavations are considered in tandem, however, a more sharply marked settlement hierarchy becomes evident. Pertinent published evidence exists only for the plains east of the Wadi Jaghjagh and north of the Jebel Sinjar, where the results of surveys in northeastern Syria (Meijer 1986) can be combined with those from new excavations and surveys centering at Tell al-Hawa across the border in northern Iraq (Ball, Tucker, and Wilkinson 1989; Wilkinson 1990b). The greater majority of sites with traces of Late Chalcolithic occupation in northeastern Syria are relatively small, less than 2 hectares in maximum extent. However, some sites are larger: at least 6 sites fall in the 6–12 hectare range, one site now under excavation by an Italian team, Tell Barri, has a maximum size of 20 hectares, while another Tell Farfara, is considerably larger still (106 hectares).<sup>19</sup> Although in the absence of controlled surface collections the extent in the Late Chalcolithic period of

many of these larger sites cannot be ascertained, the possibility exists that some occupations may have been substantial. This is suggested by new evidence from al-Hawa, where a combination of intensive surface surveys and excavations are starting to reveal what appears to have been a sizable indigenous occupation that is at least partially contemporaneous with some of the Uruk enclaves (Wilkinson 1990b).

The evidence just outlined, though fragmentary and of variable reliability, is sufficient to indicate that the northern plains into which societies of alluvial Mesopotamia of the Uruk period intruded were occupied by broadly distributed Late Chalcolithic cultures, which had already had a long prior development. On the whole, preexisting Late Chalcolithic sites appear to have been relatively small, in many cases not much larger than village-sized. This is particularly clear where the corpus of available evidence is most coherent, specifically along the Euphrates in southeastern Anatolia and northern Syria and in the inland plains of northern Syria. However, despite the absence of comprehensively published surveys, there are significant indications of a divergent pattern in the northern Mesopotamian plains east of the Euphrates, where more sizable sites and more complex settlement hierarchies seem to have existed.

Fragmentary as it may be, the evidence outlined above for the size ranges of indigenous Late Chalcolithic sites across Syro-Mesopotamia has brought the dichotomy between them and the sites with an overwhelming southern Mesopotamian component into focus. The two represent functionally very distinct types. The level of community planning exhibited by a settlement such as Habuba/Qannas, the vast resources required for its apparently rapid development, and its underlying strategic rationale show that it and the other, presumably similar, enclaves in the north represent in effect a case of urban implantation: they were appendages of communities at a state level of sociopolitical organization and themselves must have been organized at a similar level. In spite of the evidence fur-

nished by Tepe Gawra for the existence of a significant degree of social differentiation, even within presumably small local communities, it seems that the Uruk enclaves were introduced into a cultural milieu of indigenous polities at a less developed social and, above all, political stage. This may be inferred from the sizes of the Late Chalcolithic sites. While evidence exists for some sizable Late Chalcolithic communities in the north that are *contemporary* with the Mesopotamian enclaves, even the most impressive of those sites, Tell Hammam et-Turkman on the Balikh and Tell al-Hawa on the Upper Khabur, for example, pale in comparison to the larger Uruk enclaves. More important, however, there simply is no Syro-Mesopotamian or highland site *predating* the Uruk intrusion that comes close to matching the size, complexity, and levels of internal differentiation documented for the Mesopotamian enclaves.

To judge on the basis of the significant site-size differentials between the urban-sized southern enclaves in the north and even the largest indigenous Late Chalcolithic sites in their vicinity, it appears reasonably certain that the complexity of the social and administrative structures of those enclaves represented a quantum leap over those of the smaller and more numerous indigenous communities among which they were located. Additionally, the carefully chosen strategic locations of the southern enclaves imply a much more complex economic system than that of the surrounding Late Chalcolithic communities, whose smaller size and more dispersed settlement pattern betray a simpler economic structure and a primarily agricultural orientation. These various strands of evidence suggest that the local communities may have represented examples of that intermediate stage in the evolution of sociopolitical complexity traditionally referred to by sociologists as "patrimonial societies" and by anthropologists as "complex chiefdoms"—an assumption that agrees well with the indications for possible Late Chalcolithic regional settlement hierarchies in northern Mesopotamia and that helps explain existing evidence for social stratification, spatial differentiation, and mortuary segre-

gation at small indigenous sites such as Tepe Gawra.<sup>20</sup>

#### RELATIONS BETWEEN URUK ENCLAVES AND INDIGENOUS COMMUNITIES

On the basis of the preceding discussions, it is possible to speculate on the nature of relationships between the intrusive Uruk settlements and local communities. A variety of evidence suggests that the enclaves must have exercised considerable power in their respective locations and in some cases may have caused a considerable disruption of preexisting sociopolitical structures. Initially at least, their establishment may have involve some measure of coercion. How else to interpret the location of Mesopotamian enclaves at major previously occupied settlements such as Samsat, Carchemish, Brak, and Nineveh? Moreover, as will be recalled, a number of known Late Chalcolithic sites in the Syro-Mesopotamian plains were fortified. If, indeed, coercion was a significant element in the establishment of at least some of the southern enclaves in the north, an unintended but important consequence of that process may have been the flow of prisoners of war for use as dependent labor in the industrial establishments of the emerging alluvial states. That the signs for male or female slaves of foreign origin can be recognized in the earliest Archaic Tablets from Warka has already been noted.

Admittedly, the role of coercion as a factor in the formation of the network of Uruk enclaves in the Syro-Mesopotamian plains cannot be fully gauged, since we lack both conclusive proof that fortifications in smaller local sites were erected in direct response to the Uruk intrusion and information on the extent of indigenous Late Chalcolithic settlement at any of the previously inhabited regional centers where Uruk enclaves were established. However, on the basis of the later historical development of those centers (Samsat, Carchemish, Brak, and Nineveh), it stands to reason that they must have already occupied a preeminent position at the head of regional hierarchies in prehistoric times. The results of Özdoğan's survey at Samsat (1977: 133) indicate that the mound was already

sizable in the Halaf and Ubaid periods; and at Brak the presence of substantial layers dating to the Ubaid period indicates that the mound was also important well before the Late Chalcolithic period (D. Oates 1982:196), although pertinent strata have not yet been excavated. Similarly, the Ishtar Temple sounding at Nineveh indicates the existence of several meters of Late Chalcolithic deposits (Ninevite III) predating the Uruk intrusion (Campbell Thompson and Mallowan 1933), and the excavations at Carchemish also have revealed the existence of Late Chalcolithic levels, unfortunately of an indeterminable depth, nature, and extent (Woolley 1952). In contrast, Uruk settlement in the Tabqa Dam area and in the portions of the river immediately north of Carchemish seems to have taken place at locations devoid of significant Late Chalcolithic settlement.

The divergent patterns represented by the enclaves in the Tabqa and Carchemish areas and by enclaves at previously inhabited sites such as Sam-sat, Brak, and Nineveh suggest that southern Mesopotamian contacts with the northern plains were adapted to and determined by preexisting differences. In areas where a local settlement hierarchy was already in place, Mesopotamian penetration involved the taking over of the indigenous settlements at the apex of the hierarchy. However, in areas where no such occupation had to be reckoned with, Uruk penetration became a process of urban implantation. While a significant proportion of the inhabitants at newly founded communities such as the Tabqa cluster may have been of southern origin, other enclaves such as Nineveh may have been inhabited by a more limited contingent of settlers ruling over a local population. In neither case does there appear to have been an attempt to control the hinterlands away from the strategic locations where settlements were established. Those hinterlands were controlled, as I have argued already, by local communities willing to trade. When smaller Uruk settlements are found away from the main enclaves, they clearly appear to represent stations along trade routes rather than outposts designed for territorial control.

In short, the Mesopotamian expansion into the northern periphery in the Uruk period was not a process of colonization such as took place in the Susiana plain of Khuzestan. Rather, it involved the taking over of a few selected locations that allowed societies in the alluvium to tap into preexisting lowland-highland trade networks controlled by indigenous communities such as Gawra. The Uruk enclaves were in this way able to funnel that trade into a new (or rather, more extensive and better organized) long-distance trade network oriented toward the alluvium and controlled by alluvial polities. It is thus possible to see the Uruk enclaves in the north as a phenomenon that falls well within the broad parameters of the informal empire model alluded to in the Introduction. The strategically located enclaves certainly dominated long-distance trade and may even have exercised some measure of political control over their immediate surroundings, as indicated by the numerous village-sized Uruk sites surrounding larger enclaves in the Tabqa and Carchemish-Birecik areas, but Syro-Mesopotamia as a whole was not under their political control. By and large, the hinterlands were not interfered with, though they were certainly not unaffected. Although some measure of political dependency may be presumed to have existed between particular enclaves in the north and specific alluvial states, on the whole, the links that tied together the northern periphery and the alluvium in the Uruk period were economic and not political.

For reasons that can only be speculated about, the expansion phase of early Mesopotamian societies came to an abrupt halt at the end of the Uruk period, sometime in the last quarter of the fourth millennium B.C. Nevertheless, the Uruk intrusion was to have important repercussions in the further development of polities in the Mesopotamian periphery for centuries after Uruk enclaves in the northern plains and outposts in the surrounding highlands were abandoned. Those repercussions and the possible causes of the Uruk collapse are explored in the next chapter.

## Social Change in the Northern Periphery and the Collapse of the Uruk Expansion

### THE IMPACT ON INDIGENOUS SOCIETIES

Implanted at the apex of preexisting regional settlement hierarchies, the strategically located Uruk enclaves must have effectively, if indirectly, controlled the long-distance trade economy of the Syro-Mesopotamian plains and the immediately surrounding highlands. The Uruk intrusion, therefore must have had a profound, immediate, and enduring impact on the sociopolitical and economic evolution of neighboring indigenous societies. That impact may be discerned at a number of recently excavated sites across the northern periphery.

Historical and ethnographic studies noted in the introductory chapter indicate that when societies at significantly different levels of sociopolitical and economic integration come into close contact, a certain amount of institutional restructuring may be expected in the social texture of the communities involved. Invariably, however, the impact of contacts is far greater in the communities at the lower end of the complexity spectrum. In those communities, it will be recalled, such contacts are likely to represent a powerful destabilizing force as local elites take advantage of their natural role as mediators in order to further their own standing within their own communities and vis-à-vis their local ri-

vals. Moreover, the effect is magnified if the less differentiated society itself is on the verge of a social evolutionary process fueled by internal pressures (Paynter 1981:124–25). The story of western penetration of Asia and Africa from the sixteenth to the nineteenth centuries, for example, is filled with instances of collaboration as indigenous rulers allied themselves with one or another of the European colonial powers in a Faustian bargain to maintain or improve their standing in the traditional order. By exploiting local rivalries in politically fragmented lands of vast geographic extent and cultural diversity, Europeans were able to achieve a control of native polities not entirely commensurate with their own economic or even military capabilities (Robinson 1976; Scammell 1980).

The transformation of Southeast Asian communities in the earlier centuries of the first millennium A.D. as a result of the incorporation of the area into the wider trading sphere of merchants from the Indian subcontinent can serve as a model to help us better understand the nature of the processes at work in the northern periphery of Mesopotamia in the Late Chalcolithic period. This transformation is thought to have been so pervasive that it is commonly described as the “indianization” of Southeast Asia. Changes in Southeast Asian societies arising

from contacts with Indian merchants whose ultimate goal was trade with China have been documented in some detail by scholars using a variety of archaeological, historical, and literary evidence. One important study is that of Wheatley (1975), who combines historical evidence from Chinese sources and native literary traditions to show the adoption of explicitly Indian conceptions of the social order within local communities not long after the establishment of contacts. More specifically, Wheatley is able to trace the growth of complex political systems centered around the figure of a king, where previously simpler, more egalitarian social relationships had prevailed. He documents the development of increasingly sophisticated economic structures based on centralized mobilization and redistribution of resources, where less complex reciprocal economic mechanisms had formerly been the rule.

A case in point is that of the earliest historically attested Southeast Asian state, Funan, on the southern coast of Indochina. Excavations in one of Funan's cities, the large site of Oc Eo, now in present-day Vietnam, have revealed evidence for extensive maritime trade connections, including Roman, Sasanian, Chinese, and Indian artifacts (Higham 1989:249–54). Chinese records indicate that Funan played an important role as an intermediary in exchange between the Indian subcontinent and China—a result of its strategic position opposite the Malay Peninsula and the Straits of Malacca, where sea routes from India and China converge. A variety of evidence attests to the simultaneous processes of political and economic integration in local Southeast Asian communities as a result of participation in this exchange network. Chinese sources dated to the second century A.D., for example, show that hereditary kingship was well established in Funan barely a century after Indian traders first reached Indochina. That this represented a revolutionary development may be inferred from the mythological origins of Funan's kings as recorded in the same sources: kingship is traced back to an original figure of Indian descent who married into

the lineage of local chieftains (Hall 1985). Whether or not the myth is taken literally, it is clear that in the context of Southeast Asian societies, the concept of kingship itself is explicitly of Indian origin.

The political transformation just described had clear economic correlates. Surveys of the Mekong River delta indicate that the rise of the Funan state was accompanied by the construction of a network of extensive canals connecting the principal settlements and the development of an advanced agrarian system based on intensive utilization of the delta for flood rice cultivation (Hall 1985; Higham 1989). Moreover, political ideology was not adopted in isolation, but was part of a wider process of acculturation. Chinese documents reveal the presence of Brahman clerks and Buddhist monks in the Funan court. At least from the third century onward, Sanskrit had become the written (but presumably not the spoken) language of Funan. Similarly, the adoption of Indian religious rituals in an otherwise local context is evinced in Funan's art and architecture: statues of Buddha were produced locally, and local temples imitate Indian rock sanctuaries even in areas far away from cliffs. By the sixth century, Buddhism was not only widespread in Southeast Asia but had already made significant inroads into China as well (Hall 1985).

The temporal coincidence of these political, economic, and cultural changes in early Southeast Asian societies is not accidental. Rather, this convergence is indicative of the profound impact that participation in a supraregional exchange network may have on the socioeconomic structure of communities at a pre-state level of sociopolitical organization (Kipp and Schortman 1989). Keeping this in mind as a model of possibilities, we now turn to an examination of the available archaeological evidence for the impact of the Uruk intrusion on indigenous societies across the Mesopotamian periphery.

In the preceding chapter, the argument was advanced that from the observed site-size differentials between the Uruk enclaves and Late Chalcolithic communities in Syro-Mesopotamia and from the strategic rationale underlying the location of the en-

claves, it could be concluded (1) that the enclaves were offshoots of communities at a state level of sociopolitical organization and themselves must have been organized in a similar manner, and (2) that they were introduced into a cultural milieu characterized by native polities at a less developed stage, possibly complex chiefdoms. If this was indeed so, we should expect to find archaeologically recognizable evidence within local societies of institutional changes caused by the powerful internal social pressures that the onset of contacts with the more complex southern enclaves must have unleashed. One problem in recognizing such changes, however, is that it is difficult to correlate precisely specific Uruk and Late Chalcolithic sites in the north, since in many cases the two types of sites are mutually exclusive, as we have seen at Tepe Gawra and Nineveh. Nevertheless, there is enough evidence of contacts that some correlations can be made. The clearest evidence comes from Tell Hammam et-Turkman on the Balikh, Kurban Höyük in the Turkish Lower Euphrates, and Arslan Tepe in the Malatya plain of the Anatolian highlands.

#### Hammam et-Turkman

Recent Dutch excavations at Tell Hammam et-Turkman have uncovered portions of an elaborately niched monumental building (fig. 43) that caps a long uninterrupted sequence of continually rebuilt much smaller domestic structures of the Late Chalcolithic period. Insofar as it has been preserved, the Hammam structure finds close parallels with Mesopotamian architectural styles of the Ubaid and Uruk periods,<sup>1</sup> but the stratigraphic position of the structure, the associated chaff-tempered Amuq F-type ceramics, and a cluster of radiocarbon dates (ca. 3400–3200 B.C.) indicate contemporaneity only with the latter period (Meijer 1988). In fact, precise parallels may be drawn between the Hammam building and monumental tripartite structures in contemporary levels at various Uruk sites in the Mesopotamian alluvium and the nearby Uruk enclave in the Tabqa Dam area to the west.<sup>2</sup> Analysis of the assemblage associated with the Hammam structure (Hammam VB) shows that the Mesopota-

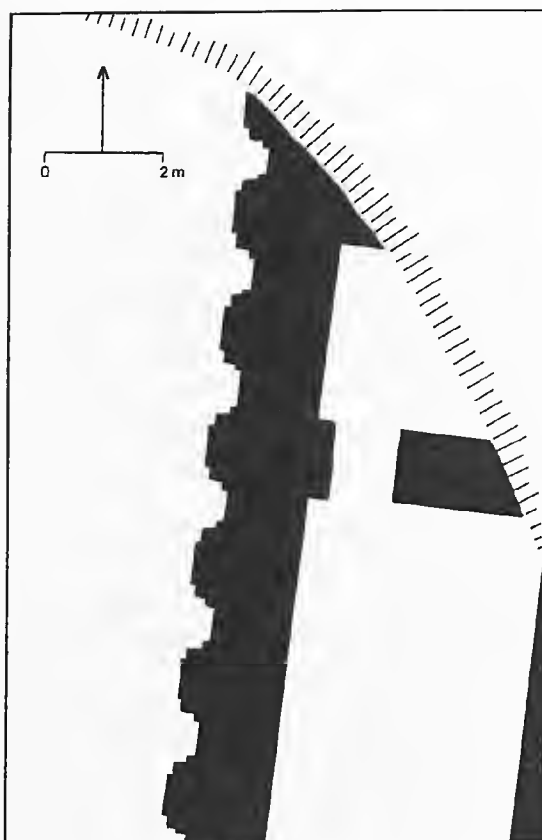


Fig. 43. Plan of Late Chalcolithic tripartite public building from Hammam et-Turkman.

mian architectural scheme appears in the context of an otherwise local site. Typical Uruk pottery was not recorded in association, nor has it been found elsewhere at the mound (Akkermans 1988b:318), although as noted earlier, Uruk ceramics have been reported in one small site in the immediate vicinity of Hammam et-Turkman. Nonetheless, evidence for contacts between the Hammam et-Turkman elites and nearby Uruk enclaves, possibly along the Euphrates or the Khabur, is provided by a jar-neck sealing impressed with a seal cut in a provincial version of the Uruk style found on the surface of the site just downslope from the Hammam VB structure (van Loon 1983:3, fig. 5).

I would suggest that the Hammam evidence may be interpreted to signify the adoption by a local social group, not only of an architectural style that is typically southern in origin, but possibly of parts



of the ideology which in the context of Uruk societies was associated with that distinctive structure—much in the same way that in early Southeast Asia elements of Indian culture were taken over by indigenous communities and adapted to serve local needs. In this light, the break in the functional nature of the excavated area at Hammam at the time of the Uruk intrusion from a domestic to a public nature is far from accidental: it represents a case of social and ideological change in a less complex social group suddenly in a situation of intense contact with a more advanced social system. More specifically, I see the Hammam niched structure as suggesting the adoption by local elites of the more complex ideas of rulership, modes of social integration, and concomitant ritual displays introduced into the north by the Mesopotamian enclaves. This adoption was expressed concretely by the use of the precise architectural form that in Mesopotamian society constituted the focal node of whatever administrative and religious activities were being emulated. Such a phenomenon makes sense only if the increased power of those native elites derived from their role as mediators of contacts with the southern enclaves and mobilizers of local and imported resources, presumably for trade, but conceivably for tribute as well.

From the perspective of the Mesopotamian periphery as a whole, the Hammam case and its implications are surely not unique. They represent one facet—ideological—of what must have been a wider range of interactions between indigenous polities and the Mesopotamian enclaves in their midst. Another complementary facet of that interaction may be discerned when we analyze data from other Late Chalcolithic sites in the north, in particular Kurban Höyük and Arslan Tepe. Those sites offer evidence for the sorts of economic changes in preexisting communities that must have accompanied the ideological changes documented at Hammam.

#### Kurban Höyük

Situated in the immediate vicinity of Samsat, Kurban Höyük yielded a stratified sequence within

which it is possible to document economic changes brought about by the onset of contacts with that southern Mesopotamian enclave. As noted in chapter 5, the main Late Chalcolithic sequence at the site consists of five superimposed phases: the lowest predates the intrusion of Uruk elements into the area, while the succeeding four phases are contemporary with it. Within this sequence, it is possible to observe a gradual change from a local ceramic industry to one of exogenous origin, the former producing chaff-tempered vessels by hand or on a slow wheel, and the latter producing mass-manufactured, grit-tempered vessels on a fast wheel, most of clear Uruk derivation (figs. 41–42 above). Further insights into the nature of changes in the production and distribution of ceramics in the Atatürk region at the time of the Uruk intrusion are sure to be provided by a neutron activation analysis project focusing on pottery from the area now underway (Evins 1989; Hopke et al. 1987). In terms of the overall economy of the region, the changes documented thus far in the production of ceramics are relatively unimportant. They are significant because they betray broader changes precipitated by the Uruk intrusion into the area. Presumably, the shift toward mass-produced ceramics is symptomatic of the development of full-scale specialization as an important factor in the economic structure of indigenous societies.

#### Arslan Tepe

The much broader contemporary exposures at Arslan Tepe provide a greater range of evidence for the impact that contacts with Uruk-period southern Mesopotamia—surely mediated by the network of enclaves across the northern plains—had on local communities in the north, even those in the highlands. As noted in earlier chapters, an internal dichotomy can be discerned within the pottery and glyptic assemblages of the Period VIA monumental structures at Arslan Tepe. In terms of its ceramics, this assemblage is characterized by two distinct and to some degree juxtaposed traditions: a handmade red/black burnished ware that is at home in the eastern Anatolian highlands, and a plain ware made on

a fast wheel that has no precedents in the area and, although locally made, is more at home in the Mesopotamian world (Frangipane and Palmieri 1988). The latter represents the local highland version of the mass-manufactured pottery of Uruk sites in the south and their northern enclaves and constitutes an important shift in the technology of pottery manufacture in the highlands. As had been the case in the Atatürk basin area, this shift indicates broader underlying changes leading to full-time craft specialization.

A similar but more revealing dichotomy may also be observed in the contemporary glyptic assemblage recovered at Arslan Tepe.<sup>3</sup> Particularly important are several caches of discarded bullae and sealings recovered in the Period VIA complex (fig. 45), principally by the entrance gateway (Room A206), in a storeroom flanking the gateway (Room A340), and in a nearby structure interpreted as a "temple" (Room A77) (Frangipane and Palmieri 1988, 1988/89). The majority of the sealings bear the impression of stamp seals with schematized animal figures, often arranged antithetically, in a style common to Late Chalcolithic sites in the northern plains and in the Zagros-Taurus highlands (e.g., fig. 44E-H).<sup>4</sup> A small number, however, were impressed by means of cylinder seals (e.g., fig. 44A-D).<sup>5</sup> The latter reveal not only the influence of Mesopotamian sealing practices, but also a knowledge of Mesopotamian iconography. Of special interest is an impression bearing an unmistakable Mesopotamian motif: a presumably royal figure on a sled surrounded by attending personnel (fig. 44A) that, as Sürenhagen (1985) has noted, finds close parallels in Uruk iconography. Other typical Uruk motifs reported on Arslan Tepe cylinder sealings include pairs of rampant lions with entwined tails (fig. 44B), animal files within ladderlike motifs (fig. 44D), and files of horned animals (Frangipane and Palmieri 1988: fig. 67:5).

It is possible that some of these distinctive cylinder seal impressions may have actually originated in southern Mesopotamian enclaves and reached Arslan Tepe as a result of exchange, since some impressed jar stoppers were actually found discarded

near Uruk jars in storerooms (chap. 4). Nonetheless, to judge from the technical details of some of the iconography, a local origin must be presumed for most of the cylinder seal impressions at Arslan Tepe. This can be surmised from the fact that in some of the sealings we may discern the transfer into the larger medium provided by cylinder seals of motifs that are far more common in the indigenous stamp seal tradition of the highlands (e.g., tête-bêche animals: fig. 44C). Moreover, functional analyses of impressions at Arslan Tepe show that door locks were occasionally impressed by cylinder seals, thus proving that the seals themselves were in use at the site (Ferioli and Fiandra 1988:508, table V).

The partial adoption of Mesopotamian (cylinder) sealing practices in a highland context side by side with a continuing stamp seal tradition indicates that important economic and administrative changes were taking place. Whether directly or not, it is likely that the partial change toward cylinder seals (capable of conveying more information than stamp seals) was tied to the increasingly complex requirements of a local economy that was expanding—almost certainly as a result of economic contacts with Uruk enclaves in the Syro-Mesopotamian plains. But the glyptic evidence from Arslan Tepe indicates that the Uruk impact on communities in the Anatolian highlands was more profound than the mere adoption of specific glyptic practices and iconography. Detailed analyses show that many of the sealings discarded in upper layers of the closet-like room (A206) by the gateway had been affixed to movable containers and were impressed with a wide variety of seals, the majority being stamp seals in local styles (Frangipane and Palmieri 1988/89). The location and type of these sealings suggests that the building complex in which they were found served as a collection point for resources and tribute drawn from the surrounding region (fig. 45), presumably for later redistribution to palace-controlled labor. The excavators of Arslan Tepe may have identified some such redistributive activity in one of the storerooms flanking the gateway (Room A340). Here were discovered numerous sealings and clay

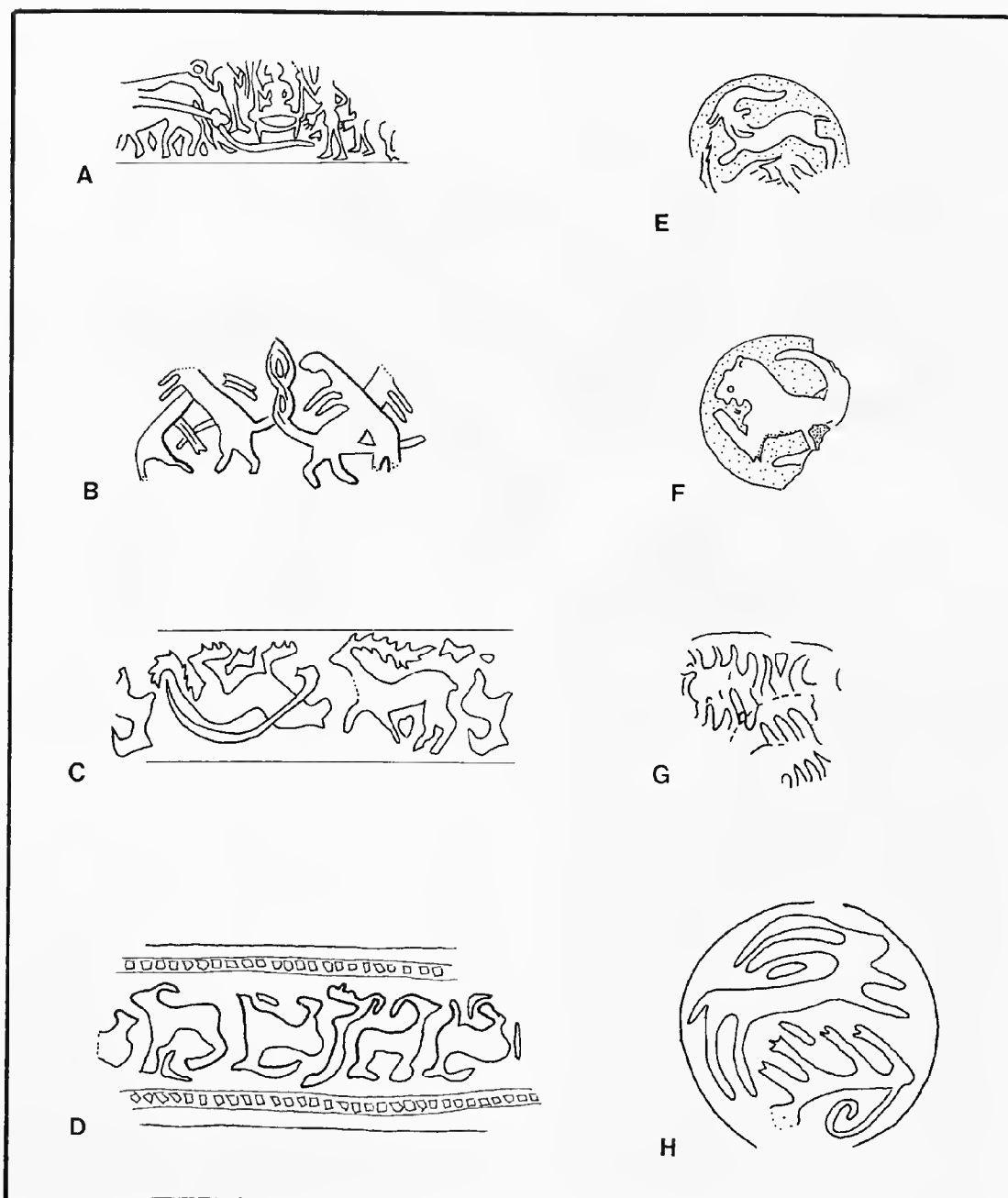


Fig. 44. Cylinder (A-D) and stamp seal (E-H) impressions from Arslan Tepe VIA. (scale 1:1; except A and C, 3:4).

lumps ready to be sealed in association with storage jars and agricultural commodities such as grain and cultivated grapes. The room also contained a high density of mass-produced conical bowls, which the excavators suggest may have been used to measure rations (Frangipane and Palmieri 1988/89). In much the same way as I saw the use of a typically Uruk architectural style at Tell Hammam et-Turkman as evidence for the adoption in an indigenous context of explicitly Mesopotamian ideas of social integration and rulership, Frangipane and Palmieri (1988/89) see the apparent role of the site as a regional redistributive center in Period VIA as reflecting the adoption of modes of social organization that are ultimately also of Mesopotamian origin.<sup>6</sup>

#### THE COLLAPSE OF THE URUK ENCLAVE NETWORK

The broad geographical distribution of the affected local communities from the northern plains to the highlands is indicative of the degree to which the Mesopotamian enclaves had gained control of the long-distance trade of the region, a control which was no less effective for being indirect. Extrapolating into the fourth millennium B.C. evidence from later third and second millennium documents, it is possible to infer that such control could have only meant an exchange system based on the flow of raw materials from highland sources to a resource-starved alluvial core in return for labor-intensive processed and semiprocessed goods (Leemans 1960:116–34; Yoffee 1981). Some possibilities on the actual materials exchanged have already been suggested in the preceding discussions.

Under such conditions, it will be remembered, we would expect that the onset of exchange would result in an initially vigorous phase of growth in the peripheral regions and the emergence of more complex sociopolitical structures as native elites controlling the resources being exploited took advantage of their natural role as organizers and mediators of the exchange to extend their power. In the long run, however, this initial growth phase would have given way to a second phase of stagnation and regression, since the economic spinoffs of

change would have been relatively negligible, and eventually, overspecialization in the procurement of only a limited variety of specific resources for export would have weakened the economic base of peripheral societies—the logical outcome of unequal terms of trade between societies at significantly different stages of social, political, and economic development.

In contrast, in the alluvium the onset of contacts would have resulted in a long-term strengthening of the communities involved in the exchange. First, the exchange would have had direct effects on the growth of economic complexity and social differentiation in the emerging Mesopotamian city-states, since imports consisted largely of products that required processing before they could be used, and exports consisted mostly of goods that required considerable investments in (dependent) manpower for their production as well as a bureaucratic superstructure to administer, store, and redistribute that production. Second, the organizational requirements needed to mount trade expeditions or military raids and, further, to found and maintain far-away colonies would also have been an important factor in the development of sociopolitical complexity in the alluvium as preexisting elites consolidated the considerable political and economic power inherent in their role as organizers of communal resources for trade or conquest. Another likely outcome would have been the promotion of sharper settlement hierarchies within the alluvium, since the nature of Mesopotamian exports demanded that an adequate flow of local resources for exchange be marshaled at all costs. Thus, the larger centers capable of conducting the exchange would have taken steps to attract, by whatever means necessary, the agricultural and pastoral production of nearby rural communities in their immediate hinterland (Adams 1981:80–81). Last, given the labor-intensive nature of the production of exportable surpluses, a final effect of cross-cultural trade on Uruk societies would have been the creation of larger and more complex urban agglomerations to take advantage of economies of scale (Jacobs 1969).

However, the expected regression in the periph-

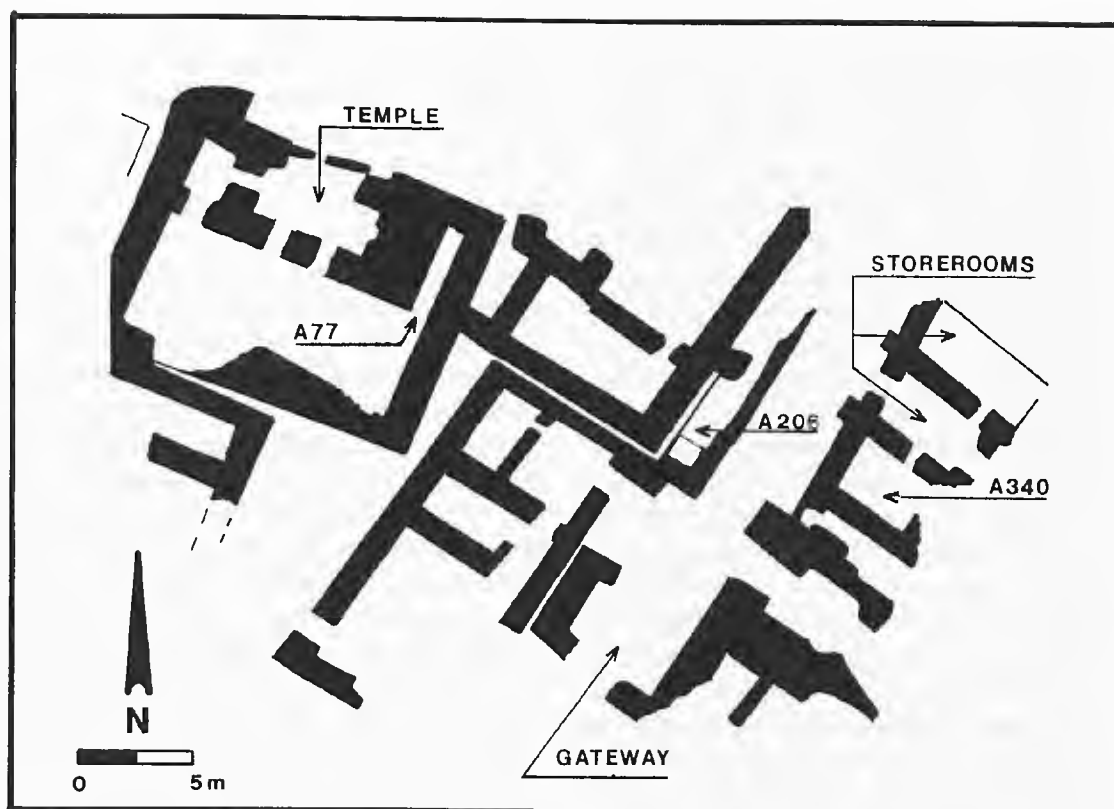


Fig. 45. Plan of Period VIA architectural complex at Arslan Tepe.

ery resulting from Mesopotamian control of the structures of long-distance trade did not materialize. The process was interrupted, I would argue, by the collapse of the expansion of Mesopotamian society at the very end of the Uruk period. Having taken place at the dawn of history, the no doubt complex series of events leading to that breakdown is not yet well understood. Nevertheless, on the basis of later historical parallels, it is possible to hypothesize that in the Mesopotamian case the collapse was the likely result of the conjunction of two independent and diametrically opposed social and environmental processes.

In the alluvium, the very success of Uruk communities in maintaining control of the critical lines of communication, without which centralized urban life could not flourish, also contributed to the eventual disruption of the resulting supraregional interaction system. Effective control of significant portions of the northern exchange network by any

alluvial state would have considerably buttressed its position vis-à-vis its regional rivals. Some archaeological correlates of this process are perhaps discernible: surveys show that while the transition from the earlier to the later part of the Uruk period was marked by a substantial population shift from the northern (i.e., Babylonia) to the southern (i.e., Sumer) portions of the Mesopotamian alluvium, total settled area did not differ markedly between the two periods. Other than the actual location of settlements, what did differ was the relative proportions of the population that lived in urban-sized agglomerations. Whereas in the earlier part of the Uruk period more than half the total estimated population lived in centers deemed urban in size, in the later part of the period that figure had diminished significantly and the proportion of population in smaller dependent settlements increased concomitantly. However, while the overall number of centers considered to be of urban size decreased, the average

size of the remaining centers increased considerably. The city of Warka in the Late Uruk period, for example, is estimated by Adams (1981) to have been in the 100 hectare range and recent, more intensive, surveys of its surface suggest that a size of 200 hectares is more likely (Finkbeiner 1987:142). These enlarged centers appear to have been capable of inhibiting the growth of similar agglomerations in their vicinity and were surrounded instead by a dense scatter of smaller satellite settlements engaged, no doubt, in dependent agricultural production (Adams 1981:75).

In the inherently fragile alluvial environment of southern Iraq, the trend toward politico-economic centralization that may be expected to have followed the establishment of the enclave network in the north would have represented a powerful destabilizing force, ultimately leading to a partial collapse of the socioenvironmental system. This inference is in line with arguments presented by Gibson (1974), who has persuasively shown the existence of a close correlation between the onset of political centralization in the alluvium and the intensification and regularization of economic demands on that unstable environment. In the southern Mesopotamian alluvium, this could only have meant progressively shorter fallow periods and increased use of irrigation agriculture as ever more marginal lands were brought into cultivation (Boserup 1965:23–40). The consequences of such a shift are predictable: an inevitable decline in the agricultural productivity of any tract of land brought under regular irrigation as a result of the increase in salinization. Effective agricultural intensification could thus not be maintained over the long run (Jacobsen and Adams 1958; Adams 1978).

The hypothesized weakening of the socioenvironmental system in the alluvium must have taken place at the very end of the Late Uruk period, during the transition to the so-called Jemdet Nasr period. A recent reinterpretation of agricultural texts among the Archaic Texts from Warka appears to show relative proportions of barley to wheat in the order of 3 to 1—suggesting, however tentatively, the onset of salinization problems in the environs of

large urban centers by the last centuries of the fourth millennium B.C. (Powell 1985:14–15). Additionally, there are a number of indications that denote the existence of important settlement discontinuities at this time. A reanalysis of available survey data by Postgate (1986) shows that while the principal urban sites continued from the earlier to the later phase, a significant proportion of surrounding villages were abandoned at the end of the Late Uruk period, and a roughly similar number were established in the succeeding Jemdet Nasr time range. Whatever the actual reasons for this pattern, regional survey data do seem to indicate a certain degree of social disruption in the alluvium that may be correlated broadly with the collapse of the network of Uruk enclaves in the north and the retrenchment from Khuzestan, even though the total occupied area barely differs between the two temporal phases (Adams 1981:82). Moreover, while the disruption affected the rural hinterlands more dramatically than the cities, it is also reflected in discontinuities in the archaeological record of some of the principal urban centers. This is most clearly evidenced in the major reorganization of the Eanna and Anu precincts of Warka immediately following the last Late Uruk phase, Eanna IVa. With the re-dating of the White Temple from the Jemdet Nasr to the Late Uruk period (Schmidt 1978a), it now seems reasonably certain that none of the principal Late Uruk public structures at the site survived the transition to the Jemdet Nasr period. The relatively meager remains assignable at Warka to the Eanna III phase (Finkbeiner 1986) contrast strikingly with the much more coherent and monumental architectural complexes that had characterized the immediately preceding phases (Eanna VI–IV) in the same area.

Meanwhile, a diametrically opposed process was taking place in the periphery. At the very same time that the economic viability of alluvial communities was being undermined by the degradation of their environment and subsistence base, peripheral societies were becoming stronger as a result of internal development unleashed by contacts with the Mesopotamian enclaves. It is possible, thus, to vi-

sualize a scenario whereby the initial strengthening of the sociopolitical structures of the peripheral groups could and probably did result in local communities that became rapidly expansive in their own right, particularly, those communities that may have already been in the throes of internal pressures toward higher levels of integration, a process accelerated and magnified by the Uruk intrusion. If so, such communities could have threatened southern domination of the critical trade routes just as internal rivalries and environmental pressures were weakening the capabilities of alluvial communities to respond effectively, and long before the impact of unequal exchange could take root in the periphery. This scenario, admittedly hypothetical, helps us to understand the otherwise unexplained sudden collapse of the northern network, an event most clearly discerned along the Euphrates, where Uruk stations such as Hassek Höyük were destroyed (Behm-Blancke et al. 1984) and Uruk enclaves in the environs of Carchemish and in the Tabqa area were simply abandoned.

#### EARLY BRONZE AGE SOCIOPOLITICAL DEVELOPMENT IN THE PERIPHERY

If anything, by removing the eventually suffocating effects of long-term unequal exchange, the collapse of the expansion phase of the Uruk period may have allowed the growth of some indigenous communities in the Mesopotamian periphery to continue unchecked. Modern studies of economic underdevelopment suggest that, historically, socioeconomic development in peripheries is sometimes greatly accelerated in circumstances in which ties to their cores become weakened or disappear altogether. Discussed in detail by Andre Gunder Frank (1967) in terms of the relationship between Latin America and Europe during times of crisis in the eighteenth and nineteenth centuries, this phenomenon is perhaps also relevant to our understanding of Early Bronze Age sociopolitical development in areas surrounding the Mesopotamian alluvium following the Uruk retrenchment from those areas.

More specifically, because of its relatively short duration and ultimate fragility, the Uruk expansion

is likely to have acted as a catalytic factor in the growth of complex, differentiated, and independent sociopolitical systems across some portions of the periphery. Differences in the long-term effects of the asymmetrical contacts would, of course, depend on the nature of preexisting peripheral societies at the time of initial contact, the duration of contacts, and the intensity of the interaction. For instance, as noted by Schwartz (1989) and Weiss (1989), among others, northern Mesopotamia reverted to simpler sociopolitical formations (such as had presumably existed prior to contacts) in the Ninevite V period (Schwartz 1987), immediately following the Uruk intrusion. In contrast, other areas developed further in their own right, commonly by assuming control of regional exchange networks previously held by the intruding core groups. An unambiguous example of the latter outcome is the emergence of the Proto-Elamite state centered at Tal-i Malyan (Anshan) in the Kur River basin of Fars. This successor state replaced Uruk polities in southwestern Iran and not only expanded the trans-Iranian routes toward the east (Alden 1982; Lamberg-Karlovsky 1985), but even appears to have taken control of trade routes feeding in and out of the Mesopotamian alluvium via the Diyala basin (Collon 1987:20). In fact, the emergent Proto-Elamite polity expanded in its own turn in ways that closely paralleled the phases of expansion of the Uruk societies that preceded it. This is noted by Lamberg-Karlovsky (1982), who interprets Sialk (IV.2) and Tepe Yahya (IVC) as faraway Proto-Elamite outposts similar in nature and function to earlier Uruk outposts at Sialk itself and elsewhere.

The rise of various local powers astride portions of the international trade routes explains why exchange between the now shrunken Mesopotamian core (after the abandonment of Khuzestan) and its periphery continued unabated after the collapse of the network of Uruk enclaves and outposts and the transition into the third millennium (Zagarell 1986:420). In fact, to judge from evidence for a generally increasing range of imported materials into the alluvium in the archaeological record of Early Dynastic sites, trade may even have expanded

at this time, although one must presume that the terms of the trade would not have been as favorable to the alluvium as before.

In any event, Sumerian royal inscriptions attest, however indirectly, to the existence of a number of local kingdoms across portions of the Mesopotamian periphery by the later half of the Early Dynastic period (Cooper 1986). The prevailing political "balkanization" revealed by these texts mirrors that of the Mesopotamian alluvium itself. The chronic intercity warfare and political fractionation so characteristic of Early Dynastic Mesopotamia can be understood, in part, as being due to increased competition as each city-state attempted to position itself on (and exclude its rivals from) the critical lines of communication and transportation feeding in and out of the alluvium, which were no longer necessarily under Mesopotamian control. Independent city-states were thus forced to deal individually with a kaleidoscope of increasingly powerful peripheral polities, a situation which must have represented a powerful stimulus toward conflict, both inside and outside of the alluvium. A reflection of this situation in the Early Dynastic period from the perspective of the city-state of Uruk, one of the competing centers, has survived in the series of epic poems centering around the figures of Enmerkar and Lugalbanda, which are concerned with trade and warfare between Uruk and the city-state of Aratta, the latter somewhere in the Iranian highlands.

It was not until the very end of the Early Dynastic period and the onset of the Akkadian dynasty, some six to seven hundred years after the collapse of the Uruk enclave network, that societies of the Mesopotamian alluvium once again undertook a coherent process of expansion matching in intensity that of the earlier period. Its rationale was one and the same: the need of alluvial elites to secure and regularize access to the commodities that sustained the export-driven economies on which their social control was predicated. However, the radical alteration of the sociopolitical landscape of the Mesopotamian periphery in the third millennium from that prevalent a millennium earlier meant that

the resource-procurement strategies of the Akkadians had to be substantially different from those of Uruk societies. This is explained in part by the enduring impact of the Uruk intrusion. The periphery that the Akkadians attempted to penetrate bore no relationship to that previously controlled, however indirectly, by the Uruk enclaves. Coming after centuries of autochthonous development, the Akkadian empire had to deal with a variety of locally powerful native polities that had developed, in great measure, by explicitly adopting (southern) Mesopotamian cultural norms and politico-economic modes of social organization. Because of the chance discovery of palace archives, the best documented of these rival states is ancient Ebla/Tell Mardikh (56 ha), on the fertile Syrian plains southeast of Aleppo (Matthiae 1980; Pettinato 1991). Surely no less powerful, although until now devoid of historical records, were a number of contemporary kingdoms across central and northern Syria and northern Iraq (Weiss 1983). Among the excavated and therefore better-known examples are (from west to east) Qatna (100 ha) on the Orontes basin (du Mesnil du Buisson 1935), Tell Chuera (100 ha) between the Balikh and the western Khabur (Orthmann 1986), Tell Mozan (ca. 70 ha; Buccellati and Kelly-Buccellati 1988), Tell Brak (minimally 43 ha; D. Oates 1982) and Tell Leilan (75 ha; Weiss 1986) on parallel branches of the Upper Khabur drainage, and Tell Taya (70–160ha) on the plains north of the Jebel Sinjar (Reade 1968).

The dramatic differences in the nature of native communities encountered by the southern Mesopotamian intruders from the Uruk to the Akkadian periods help explain why, when contrasted to the evidence from the earlier period, the Akkadian phenomenon seems geographically more restricted. Granted, portions of the Upper Tigris basin in northern Iraq and of the Upper Khabur catchment in northeastern Syria appear to have been under Akkadian political control, but there is no evidence such as is available in the Uruk period for a permanent Mesopotamian presence along either the Euphrates bend or the Iranian highlands. Those areas, in fact, appear to have been wholly outside the



sphere of Mesopotamian control, and Akkadian royal inscriptions detail a litany of military campaigns directed against recalcitrant local polities which, time and again, proved capable of challenging Akkadian power (chap. 1).<sup>7</sup> In the Akkadian period, then, indigenous collaboration across large portions of the periphery could no longer be taken for granted, as had surely been the case in Uruk times (at least initially), and resources could often

only be secured by modes of imperial domination that were more formal than those employed by the Uruk intruders. To judge from the periodicity of Akkadian raids against northern Syria, northern Mesopotamia, southeastern Anatolia, and against Zagros piedmont groups, those more formal modes must have been considerably more expensive in the short run and significantly less effective in the long term than the earlier efforts.

## Conclusions

*If the ancient Mesopotamian historian is to give any meaningful account of his materials at all he must of necessity relax the stringent claim of "what the evidence obliges us to believe" and substitute for it a modest "what the evidence makes it reasonable for us to believe," for it is only by taking account of evidence that is suggestive, when the suggestion is in itself reasonable, rather than restricting himself to wholly compelling evidence, that he will be able to integrate his data into a consistent and meaningful presentation. —Thorkild Jacobsen, "Early Political Development in Mesopotamia"*

### THE VIEW FROM THE PERIPHERY: INFORMAL EMPIRE IN THE URUK PERIOD

I have argued that by the second half of the fourth millennium the highly integrated but resource-deficient societies of the Mesopotamian alluvium had succeeded in the institutionalization of a system of interaction with the resource-rich, but demonstrably less developed, highland communities. This was accomplished by the colonization of the neighboring plains of southwestern Iran and by establishment of enclaves, stations, and outposts at carefully selected locations across the northern periphery. This intrusion was in some ways comparable to the historically documented expansion of the Akkadian empire into some of the same areas some six to seven hundred years after the end of the Uruk period, and was equally short-lived. Nevertheless, the Uruk intrusion was to have important repercussions in the further development of indigenous cultures with which it came into contact, and this partially explains why the resulting supraregional interaction system was doomed to collapse.

In broad terms, a number of stages may be proposed in the processes of expansion of Mesopotamian societies of the Uruk period, although important chronological problems still remain and significant overlaps must be presumed to have existed

between stages. The first stage (fig. 46A) saw the colonization of the plains of southwestern Iran, an essentially *ad hoc* process that transformed those plains into part of the Mesopotamian core and allowed Uruk polities in Susiana unrestricted access to trade routes into the Iranian plateau and points further east via the southern Zagros. Possibly overlapping in part is the second stage (fig. 46B), which entailed the establishment of small settlements in selected areas devoid of significant preexisting occupation (e.g., Sheikh Hassan in the Tabqa area) and, more important, the taking over of a number of previously inhabited Late Chalcolithic sites at the apex of local settlement hierarchies across the Syro-Mesopotamian plains (Nineveh, Brak, Carchemish, Samsat), all situated at the intersection of the most important waterways and overland routes. The third stage (fig. 46C) represents the climax of the northern enclave network. Previously established settlements continued, and the Uruk presence along the Upper Euphrates was rapidly expanded with substantial urban enclaves in the Tabqa (Habuba/Qannas/Aruda) and Carchemish areas (Kum Ocağı/Şadi Tepé/Tiladir Tepe). These enclaves must have effectively controlled both waterborne traffic along the Tigris and Euphrates and the overland route along the rivers between Syro-Mesopotamia and the southern Iraqi alluvium.

Depending on how the Uruk-period sequence in Susiana is correlated with that of the Mesopotamian alluvium, the final stage (fig. 46D) may be conceived either as a further expansion of the preceding pattern or as an altogether different pattern following its collapse. In either case, it appears to have taken place at the very end of the Uruk-period as presently understood and was characterized by the placement of small isolated outposts (Godin, Sialk) at locations of strategic importance along highland routes feeding into Uruk enclaves in the north (e.g., Nineveh) or into Uruk states in the Iraqi alluvium (via the Diyala basin and the Khorasan Road) or southwestern Iran (via southern Zagros passes).

The principal Uruk enclaves across the northern Mesopotamian plains formed a network of surprising geographic breadth and appear to have been exponentially larger and more complex—socially, politically, and economically—than preexisting communities. Although no direct corroborating evidence exists, I presume that these enclaves must have exercised an overwhelming influence, if not outright control, over the long-distance exchange economy of the areas in which they were established. This presumption is based on circumstantial but persuasive evidence: (1) the noticeable differences in scale between the enclaves and surrounding indigenous communities, (2) the strategic rationale underlying the location of the enclaves, and finally, (3) the discernible impact that the intrusion had on nearby indigenous societies.

However, none of this is to argue that individual sites in the network were established as part of a single comprehensive “master plan.” Far from it. The growth of the network was surely organic, and a significant temporal dimension must be presumed to have existed, although our understanding of pertinent chronological data from sites such as Nineveh, Brak, Samsat, and Carchemish is not yet sufficient to disentangle its details. What is clear is that at its apogee the Uruk expansion may be conceived as part of the cyclical “momentum toward empire” that characterized Mesopotamian civilization throughout millennia. Made necessary by societal

responses to the chronic lack of resources in the Mesopotamian alluvium and facilitated by differences in the sociopolitical and economic structures of communities in the alluvium and its periphery, that recurrent impulse outward took a variety of forms throughout the history of Mesopotamian civilization—from more informal (sporadic trade contacts, institutionalized trade networks, and occasional military expeditions and raids) to more formal modes of interaction (territorial annexation, provincial systems). The specifics for each period and area were to be determined by a combination of factors and conditions that had as much to do with conditions in the periphery as it did with developments in the alluvial core.

In the Uruk period, for example, it is possible to understand the observed differences in the locational pattern of Uruk sites in the Syro-Mesopotamian plains, where far-flung outposts were the preferred contact strategy, and the Susiana area, where a process of wholesale colonization is likely, in reference to a number of factors. An important consideration must have been that Susiana was seven to ten days distant from southern Iraq, either by foot or by donkey caravan (H. T. Wright 1981b:264). By contrast, the northern enclaves could only be reached after one or more months of travel, as shown by surviving accounts of the itinerary of Old Babylonian merchants (early second millennium B.C.) traveling from the Mesopotamian alluvium to the city-state of Emar in the Tabqa Dam area.<sup>1</sup> This meant that the enclaves must have been expensive to found, support, and defend—which may partially explain why Uruk societies were unable (or unwilling) to maintain them in the long run.

However, another factor that surely accounts for some of the observed differences in the strategies of contacts of alluvial societies of the Uruk period toward their northern and eastern peripheries is that in moving eastward into the Susiana plain, the Uruk settlers were drawn by a relative settlement vacuum into which they could step unmolested or with only minimal resistance. It will be recalled that indigenous settlement in southwestern Iran had been in decline for centuries prior to the Uruk

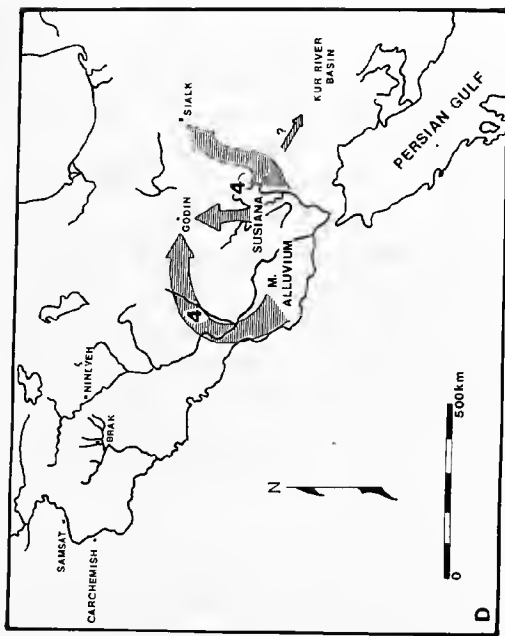
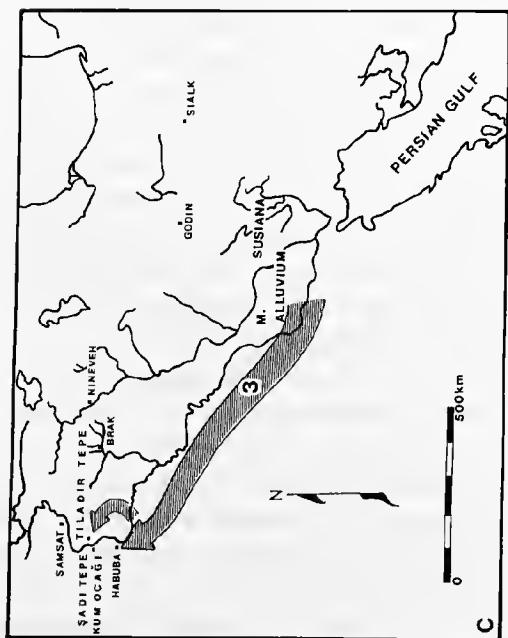
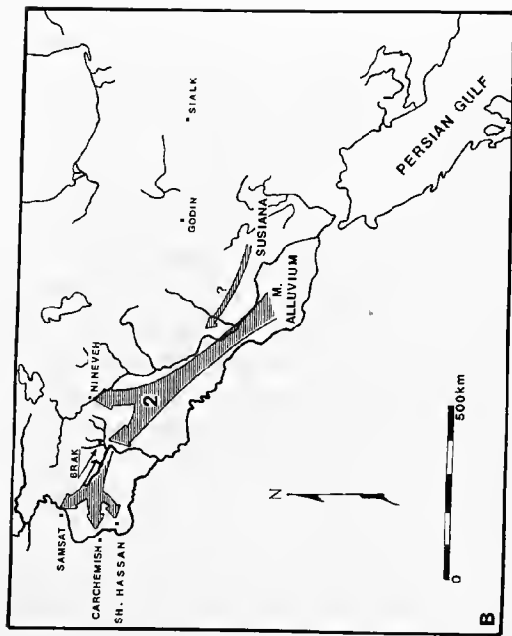
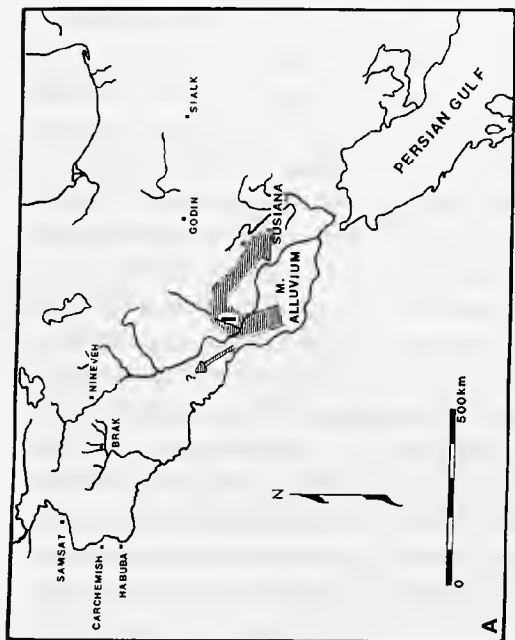


Fig. 46. The Expansion of Mesopotamian polities in the Uruk period.

penetration. In moving northward into the Syro-Mesopotamian plains, however, Uruk settlers intruded into an area where well-developed trade relationships with the surrounding highlands already existed (as evidenced at Gawra) and came into contact with cultures that although less powerful and less complex than the intruders were nevertheless flourishing.

These logistical and cultural differences help explain why the settlement patterns of Uruk sites in the southwestern Iranian plains and the high plains of Syro-Mesopotamia diverged as much as they did. Whereas culturally by the Late Uruk period Susiana had become, in effect, an eastward extension of the Mesopotamian alluvium with at least two independent Uruk polities vying for supremacy, the plains of Syro-Mesopotamia remained a distant alien environment that was best approached by means of specialized settlements at strategic locations (gateway communities).

A profitable way to tackle the question of how the strategies of contact between Mesopotamian societies and peripheral communities were shaped by preexisting conditions in the periphery, and to corroborate whether or not the conclusions already reached as to the nature of peripheral communities are warranted, is to use comparative material from similar or related phenomena for which adequate historical documentation is available. A useful and provocative study is that of Philip Curtin (1984), a historian, who explores the forms cross-cultural exchange has taken through history, the ways in which it has been organized, and the considerable impact such contacts have had on the societies exposed to it. He argues that after a certain point in social evolution, the general outlines of the institutions of cross-cultural trade become remarkably similar across otherwise very different civilizations and historical circumstances, even though the specifics of the institutions and of the trade itself varied considerably. According to Curtin, the most common institutional form of cross-cultural exchange after the emergence of cities was the "trade diaspora," a term that is applicable to the Uruk enclaves, stations, and outposts insofar as it is defined broadly as any com-

munity or communities set up for the specific purpose of mediating contacts between areas with different but complementary resource endowments.

Historically, asserts Curtin, trade diasporas have taken a number of diverse forms. These range from commercial specialists removing themselves from their own society and settling as aliens in a foreign community to the diametrically opposed case of posts established as political entities from the beginning, with the founding power or powers retaining some sort of control over the trading settlements. Between these extremes are myriad possibilities in terms of the relationship between the trade diaspora settlements and their host communities, the relationship between the diaspora settlements themselves, their relationship, if any, with their metropolis, and finally in terms of the possible impact of preexisting conditions in shaping the nature of contacts.

This last point is of particular significance for understanding the Uruk expansion, since it is clear from the case studies explored by Curtin that the strategies of contact do vary considerably according to the sociopolitical and economic structures of indigenous societies in the midst of which diaspora settlements are established. In areas of considerable economic potential but relatively undeveloped intraregional trade networks, Curtin finds that trading settlements are more likely to be spread widely into the local hinterland and to be directly involved in the exploitation of resources—a settlement pattern at variance with that observed for Uruk settlements in the north and northwest. However, in areas where local polities already hold control of a developed trade network, trading settlements are more likely to be established only at selected locations, usually at the juncture of interregional and intraregional transportation networks.

In light of the foregoing, what the Uruk enclaves in Syro-Mesopotamia did was to superimpose a new (longer-distance) orientation on preexisting exchange networks uniting the northern plains and the highlands to the north and east. The strategically positioned enclaves controlled the long-distance trade routes in and out of the alluvium

and across the Syro-Mesopotamian plains. However, the hinterlands of Syro-Mesopotamia, the highlands, and the highland trade routes feeding into the northern plains were controlled by a kaleidoscope of indigenous polities that must have been amenable to trade. This contact strategy is explained, in part, by what the economic historian Paul Bairoch (1988:11–12) has termed the “tyranny of distance.” Simply put, the primitive transportation technologies common to premodern societies meant that direct exploitation of distant resources was prohibitively expensive and time consuming.<sup>2</sup> Under such conditions, the highland resources coveted by Uruk states were much more easily and cheaply obtained by allowing indigenous communities already exploiting them to continue, provided they could be persuaded or coerced (by means of the intrusive settlements in the nearby plains) into trade at terms favorable to the alluvium.

In spite of different historical circumstances, a particularly illuminating parallel for the sort of relationship I presume to have existed between native societies of the Syro-Mesopotamian plains and surrounding highlands and the Uruk settlements in their midst is that of the Portuguese intrusion into Senegambia (West Africa) in the sixteenth and seventeenth centuries A.D. European sources show that by the time Portuguese colonists first arrived on the Senegambian coast in search of slaves, gold, ivory, and spices, the area was occupied by a number of independent chiefdoms and a lively trade in fish, salt, iron, textiles, and agricultural products had long existed between local polities. Moreover, for several centuries prior to the arrival of the Portuguese, overland long-distance trade connections (via the Sahara Desert) also existed between Senegambia and Muslim states in the Mediterranean (Curtin 1975).

Given these conditions, the Portuguese were content with establishing only a limited number of settlements at strategic locations. In the Senegambian case, this did not involve the taking over of important preexisting settlements since those were aligned with the trans-Saharan routes and were lo-

cated far inland in the self-supporting savannah areas separating the northern desert and the southern rain forests. Rather, Portuguese settlements were established (in almost all cases, it seems, with the consent of local populations) only along the coast and the delta of the Gambia River. At those locations, Portuguese settlements had easy access to both the maritime routes toward western Europe that their navy controlled and the waterways and overland routes leading inland. In this way, the Portuguese were able to bypass the trans-Saharan routes and establish themselves as an important mediator of the long-distance trade economy of the area. Control of inland routes now partially rerouted in order to feed into the Portuguese coastal enclaves, however, was left in the hands of local chieftains willing to trade—the same chieftains who had control of the bulk of long-distance and intraregional trade prior to the arrival of the Europeans. After the intruders set themselves up along the coast, they were supplied with required resources and trading items by a growing class of African middlemen (Curtin 1975; Daaku 1970).

If indeed, as I contend, it is possible to see the expansion of Uruk societies as an early example of the cyclical “momentum toward empire” that characterized Mesopotamian civilization from its inception, then it becomes necessary to define what sort of “empire” is documented by the evidence discussed in the preceding chapters. In all likelihood, associated cluster villages were controlled by the enclaves they surrounded. Moreover, it is probable that the enclaves themselves may have been dependent on specific Uruk city-states. However, neither the northern plains as a whole nor the surrounding highlands were under the direct control of the emerging urban centers of southern Iraq and southwestern Iran. Effective Mesopotamian control of those vast areas would have required a settlement pattern sharply at variance from that observed in the Uruk period: a whole network of administrative posts, garrisons, and way stations in the hinterlands away from the rivers.

In short, available archaeological evidence sug-

gests that the links that tied the northern Mesopotamian periphery and the alluvial lowlands of southern Iraq and Khuzestan in the Uruk period were primarily economic in nature. Nonetheless, those links were deeply influential in the development of peripheral societies. Observable effects vary from the adoption of explicitly Mesopotamian architectural styles, such as may be detected at Tell Hammam et-Turkman, to the increasing convergence in indigenous and Mesopotamian ceramic manufacturing industries and glyptic practices revealed at Arslan Tepe. More important than these easily identifiable transformations, however, were the underlying modifications in social and economic organization, ideology, and concepts of leadership that may be inferred from the archaeological remains.

In terms of the Gallagher and Robinson paradigm of relationships of imperial dependency discussed in the introductory chapter, the network of Uruk enclaves in northern Mesopotamia may be characterized as an informal empire: the boundaries of Mesopotamian economic hegemony far out-reached those of its political control. The informal empire of the Uruk period was from the perspective of the periphery not unlike that of the "trading post empires" of Carthage in the Western Mediterranean prior to the third century B.C., or even those of Britain and Portugal in Asia and Africa prior to the twentieth century. At the center of these empires were highly integrated polities possessing little in the way of territory that nonetheless managed to exert a preeminent influence in the economic life of vast regions by means of strategically located enclaves and a network of alliances with otherwise independent local rulers (Curtin 1975, 1984; Gallagher and Robinson 1961). In the absence of historical documentation, the existence of alliances between specific Uruk enclaves and nearby indigenous rulers controlling access to highland resources cannot be demonstrated directly. Nevertheless, whether formalized or not, such alliances must have existed, for in the long run the position of the Uruk enclaves across the north and northwest would have been untenable in the face of active local opposi-

tion. Though coercion is certainly likely to have been part of the expansionary process of the Uruk period, the process as a whole is unintelligible unless a significant measure of indigenous collaboration is presumed.

#### THE VIEW FROM THE CORE: A WORLD SYSTEM OF THE URUK PERIOD

Though instructive from the point of view of the periphery, the informal empire model fails us in that it presupposes the existence of a single political center. This may have been the case in the Akkadian and later periods, but it was not the case in Uruk times. The survey evidence from southern Iraq and Khuzestan indicates that the political environment of the Uruk world was characterized by a small number of centralized cores, almost certainly in fierce competition. This may be inferred from the already reviewed evidence for changes in Uruk settlement patterns in the Susiana plain culminating in the emergence of an uninhabited buffer zone separating what appear to have been two rival states. Significantly, armed conflict is often portrayed in contemporary representations in both the Iraqi alluvium and Susiana: a common scene in Uruk cylinder seal impressions depicts various military activities and the taking of prisoners.<sup>3</sup>

Within a framework of conflict and strife in the Mesopotamian core, then, the establishment of individual Uruk settlements in the periphery is best conceived as part of an organic process of action and counteraction, with individual Uruk city-states scrambling to found specific enclaves or outposts in order to control the critical lines of communication through which resources were obtainable and, equally important, to deny their local rivals such exclusive control. Specific states would have been oriented toward particular portions of the periphery by virtue of their location and past history of contacts, as represented in figure 47. An important factor in this organic process must have been the colonization of the Susiana plain and the emergence there of independent Uruk polities. This may have acted as a powerful stimulus for independent pro-

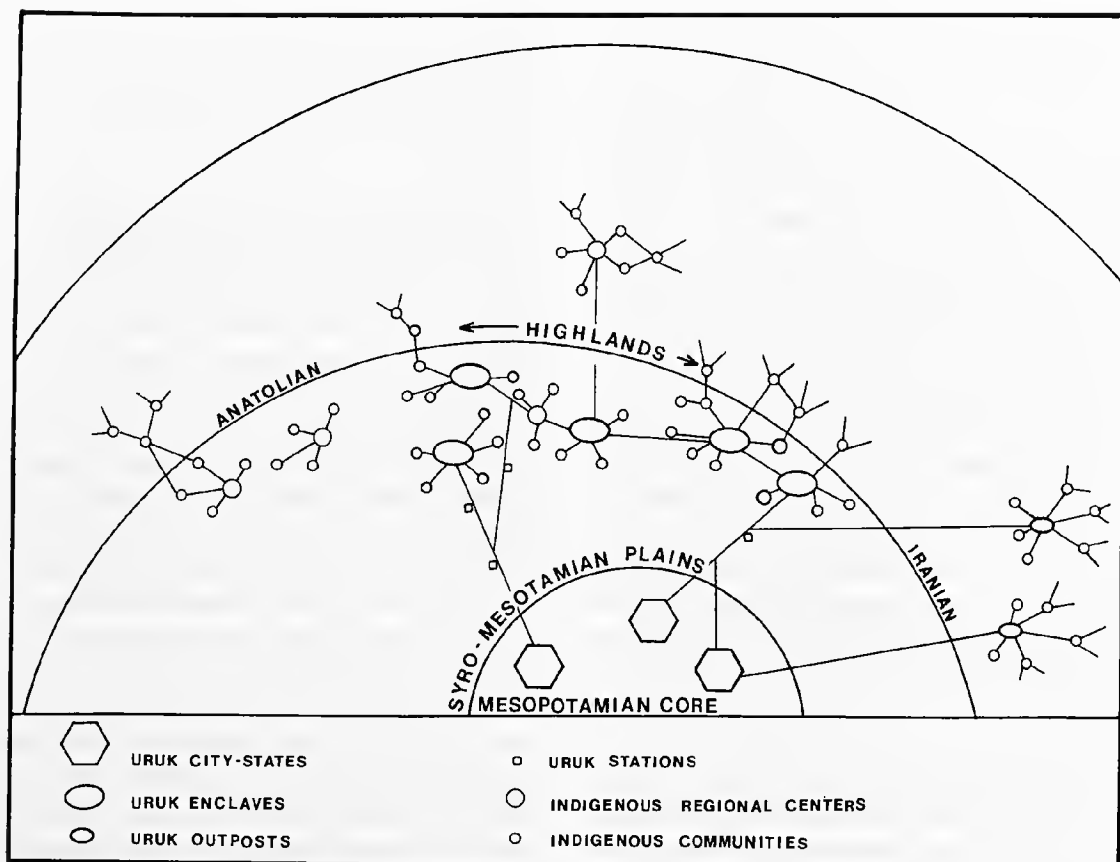


Fig. 47. The supraregional interaction system of the Uruk period.

cesses of expansion northward by competing states in the Mesopotamian alluvium in an attempt to offset the advantages enjoyed by southwestern Iranian centers, which were ideally situated to tap into trade routes across the Iranian plateau and the east.

A later historical parallel from Mesopotamia is available for the situation envisioned here for the Uruk period. Late in the Isin-Larsa period (first quarter of the second millennium B.C.), after the collapse of the empire of the Third Dynasty of Ur and before the unification of the alluvium under the emerging power of Hammurabi of Babylon, documents indicate that specific states controlled particular segments of the trade routes—whether overland alongside the Tigris or Euphrates or maritime toward the Gulf. The city of Ur in the southern edge of the alluvium, for example, seems to have been

intimately connected with Persian Gulf trade, whereas Larsa, its neighbor to the northeast, was more closely associated with land routes eastward into southwestern Iran via the Diyala region. Similarly, Sippar, in the northeastern edge of the alluvium, appears more closely tied with trade routes alongside the Tigris toward Assur and the north, while Babylon, on one of the main branches of the Euphrates in the central alluvium, was oriented mainly toward routes in the direction of northern Syria and the northwest (Larsen 1987; Leemans 1960).

From the perspective of the Mesopotamian core in the Uruk period, then, a more useful construct than “informal empire” is a modified “world system,” as discussed in the introductory chapter. What makes this model of historical change pertinent to



the study of the expansion of early Mesopotamian civilization is that, like the informal empire paradigm, it presumes that the primary linkages between complementary regions and cultures are economic; but unlike the informal empire model, the world system scheme takes into account the dynamics of competing polities at the center. Initially, at least, the supraregional interaction system of the modern world described by Wallerstein emerges from the independent efforts of a few fiercely competitive cores which, more often than not, were simply reacting to earlier moves and perceived threats from regional rivals. In general, I presume that this was also the historical context for the Uruk expansion.

#### THE CONTEXT OF EXPANSION

The mass of new and reinterpreted data from the north and northwestern Mesopotamian periphery, summarized in the preceding chapters, bears not only on our understanding of transformations in those peripheral areas but also on our comprehension of developments in the alluvial lowlands of southern Iraq and southwestern Iran in the second half of the fourth millennium B.C. Indeed, in many ways it is possible to gauge better the transformation of Sumerian civilization in the later part of the Uruk period on the basis of peripheral data. The level of centralized community planning perceived in settlements such as the Habuba/Qannas complex, for example, is indicative of the complexity of administrative developments in the urban centers of the Mesopotamian core, for which we have little direct evidence from either southern Iraq or southwestern Iran, where Uruk levels are often buried under meters of later deposition.

Moreover, what peripheral evidence exists concerning the organization of the exchange in the Uruk period also provides clues as to the social structure of early Mesopotamian communities for which, again, the only pertinent evidence from the Mesopotamian core itself is that provided by not always clearly understood glyptic and epigraphic materials.<sup>4</sup> At one end of the spectrum of organizational possibilities stands the hilltop fort at Godin

Tepe (Godin V), where, I have argued, following the excavators, that a group of commercial specialists removed themselves from their own society and settled as aliens with their host's approval in a foreign community (Godin VI). The observed pattern thus recalls the well-documented case of Old Assyrian merchants in Anatolia, although it is not known whether the few occupants of the Godin fort were acting in the interests of their kin group or on behalf of an Uruk state. Little can be said of the situation in sites such as Nineveh, Brak, Samsat, and Carchemish because of limited exposures. It is possible that the Uruk occupation of those previously inhabited centers may have resembled the pattern found at Godin, but on a much larger scale. It is more likely, however, that those sites resembled the diametrically opposed organizational pattern observable in the Habuba/Qannas/Aruda complex in the Tabqa Dam area, where comparatively broad exposures were achieved.

The Uruk sites in the Tabqa region simply cannot be explained as anything other than specialized appendages of an Uruk city-state that must themselves have been organized in a similar manner. Although we do not know whether or not those settlements remained formally dependent on their founding metropolis for long, the level of centralized planning they evince indicates that they represent a case of urban implantation, a cluster of related settlements founded as a political entity to serve a particular function (e.g., mediators of exchange). Unless our preconceptions of the nature of ancient Mesopotamian society are seriously flawed, it must be presumed that the Tabqa enclave represented a conscious and expensive act of policy that simply cannot be ascribed to any kin-based family firm in the Old Assyrian trade model. Rather, the founding of such enclaves would have required levels of planning and resources, expenditures, and access to labor supplies beyond those traditionally thought possible for kin-related organizations, such as existed throughout Mesopotamian history (Dikouff 1975, 1982; Gelb 1979).

In short, if I am correct in assuming from the carefully chosen locations of the major Uruk en-

claves across northern Mesopotamia that control over exchange networks in and out of the alluvium was the strategic rationale that underlay their foundation, then it must be concluded that in the Uruk period it was for the most part the state (which is here equated with the public sector including both palace and temple) that took an active role in ensuring the procurement of resources. From this it may be inferred that, by and large, at the very beginnings of Mesopotamian civilization the state already exercised a preponderant economic role, since it must have held control over the substantial labor and security forces that historically in the Mesopotamian case were necessary for the production of exportable surpluses. (Nissen 1976; Zagarell 1986).

This early role seems supported by available textual and representational evidence from the Mesopotamian core, namely, the still little understood Archaic Texts from Levels IV and III of the Eanna sequence at Warka and cylinder seal impressions in Uruk style from Warka and various other sites. A case in point is the production of textiles, which, as will be recalled, was traditionally a crucial state-controlled export-oriented industry. Although we do not yet have unequivocal evidence for the manufacture of textiles for export in the Uruk period such as exists later in the third millennium, what evidence is available reveals that all the necessary conditions for such an activity were already in place by the floruit of the enclave network (Nissen 1985b). The existence of the required technology is demonstrated by a cylinder seal impression from Susa clearly depicting a horizontal loom and weavers (Amiet 1972: no. 673). State control over necessary raw materials (wool) seems assured in light of a recently published group of Archaic Texts dealing with animal husbandry, which attests to the existence of state-managed flocks (Green 1980). Similarly, control over required labor is implicit in the specific term used for female slaves in the Archaic Texts (*SAL + KUR*), which means not only slave of foreign origin in the strict sense, but also dependent woman or serf (Gelb 1982:91–93). Such laborers figure prominently in the later documenta-

tion on the production of textiles for export. Significantly, the sealing from Susa showing a weaving scene depicts the attendant personnel as wearing long pigtails, an indication that the labor was performed by women (Amiet 1972:105, no. 673). A final precondition is a state role in the storage and redistribution of raw materials and finished products. This too is indicated in the Archaic Tablets: even the earliest ones, which record but a single transaction, represent the work of central administrators recording inflows or outflows of specific commodities. According to Nissen (1986a:330), a substantial number of the difficult-to-interpret tablets deal with the distribution and storage of textiles.

While the public sector was surely the preeminent economic force behind long-distance trade in Uruk times, there is no need to presume that Uruk elites possessed total command over all facets of the economy. Recent studies on the economy of Sumerian city-states in the third millennium (Foster 1977, 1981; Gelb 1971, 1979; Powell 1977; Westenholz 1984) point, in fact, to considerable evidence for economic forces within Mesopotamian society not under the direct control of central bureaucracies, even in periods of considerable political centralization, such as I presume to have been the case in Uruk times. These studies indicate that a lively measure of internal trade controlled by either private entrepreneurs or by state functionaries taking advantage of their position for private gain can be documented even in times when long-distance exchange was primarily the responsibility of the public sector. More important, the same studies also raise the possibility that a certain measure of private entrepreneurship in the procurement of some resources from outside the alluvium may have existed throughout (Adams 1974). This point is underscored by Foster's (1977) analysis of Akkadian-period trade based on records from the city-state of Umma. He finds whole categories of imports (including such crucial commodities as copper) that are absent altogether from the surviving documentation. Since that documentation was prepared by central bureaucracies, it is possible that at least a

portion of the needed imports may have reached the alluvium by more episodic, less formal mechanisms outside of the purview of the great institutions.

These studies of third millennium trade are relevant to our understanding of conditions in the Uruk period because they raise the possibility that by concentrating our attention on the major Uruk enclaves thus far identified, which represent the "official" procurement mechanism of central bureaucracies, we may be missing the complementary "unofficial" procurement efforts of private entrepreneurs that bypassed the enclaves altogether and extended the Mesopotamian presence into areas well beyond their immediate reach. Whether or not Uruk outposts in the highlands such as Godin and Sialk represent the culmination of the expansion phase of the Uruk period or its partial collapse, a tantalizing hypothesis is that those outposts attest to complementary modes of procurement outside the purview of the state in the Uruk period.

#### OUTSTANDING PROBLEMS AND SUGGESTIONS FOR FURTHER RESEARCH

##### The Roots of Expansion

Societies in the Mesopotamian alluvium during the Uruk period expanded rapidly, both internally and externally. Internally, this expansion took a variety of forms: (1) new forms of spatial distribution with the growth of cities and their dependencies; (2) new forms of sociopolitical organization with the explosive growth of social differentiation, the emergence of encumbered labor, and the crystallization of the state; (3) new forms of economic arrangements and of record keeping with state control of a substantial portion of the means of production and of its surplus, craft, and occupational specialization on an industrial scale, and the effective origins of writing; and finally, (4) new forms of symbolic representation needed to validate the changes taking place in the realm of social and political relationships, leading to the creation of an artistic tradition and iconographic repertoire that was to set the framework for pictorial representation in Mesopotamia for millennia to come.

Externally, this expansion manifested itself in an actual migration of population and in the formalization (by means of the strategically positioned enclaves, stations, and outposts) of the long-distance trade networks that were necessary to supply the increasingly urbanized and stratified societies in the alluvium. These various phenomena of internal and external expansion were interdependent, and the processes leading to civilization in the alluvium cannot be fully understood unless we treat them as such. However, we have not yet addressed the precise relationship between these parallel sets of processes.

This problem of interpretation has proved particularly obtuse because, while we possess just enough evidence to describe the outlines of Uruk settlement in the Syro-Mesopotamian plains in the Late Uruk period, little is known of how those settlements evolved. There can be little doubt that the bulk of the Uruk expansion must have taken place in the context of societies in which complex political and administrative structures were already in place. However, a crucial question is whether strong centralized states crystallized at precisely those locations through which long-distance exchange was being funneled in earlier times, or whether long-distance contacts developed out of settlements that had evolved into strong centralized states for endogenous reasons not related to cross-cultural interaction.

In an early attempt to answer this question with archaeological data from the Mesopotamian world, Henry Wright (1972) carefully analyzed evidence for imports and exports from Uruk and Jemdet Nasr levels at Farukhabad, a small regional center in the Deh Luran plain of southwestern Iran. Wright concluded that while some evidence for interregional exchange could be found throughout the two periods, large-scale movements of commodities only occurred after the establishment of the state. While representative of conditions in the somewhat peripheral Deh Luran plain, Wright's results need not be applicable to the Mesopotamian alluvium. In the Sumerian core, the issue of the relationship between state formation and long-distance exchange

is still clouded by the rather disjointed and non-quantifiable data available for the most important urban centers of the Uruk period—large exposures of pertinent levels exist only for a single site, Warka itself. Moreover, only portions of the administrative quarter of that site were sampled, and as noted by Nissen (1986b:317–19) and Strommenger (1980b), the results from early excavations there are marred by ambiguous stratigraphic information and inadequate record keeping. Making matters more complicated is the fact that we have yet to come to grips with the nature of developments in the surprisingly urbanized Early Uruk period, dating roughly to the first half of the fourth millennium.

Nevertheless, available evidence pertaining to the immediately preceding Late Ubaid period points the way toward an eventual solution. Unless we are prepared to telescope the origins of the state in southern Mesopotamia back into the Ubaid period, of the two alternatives outlined above, it is more likely that long-distance exchange preceded state formation. Resource procurement mechanisms in southern Mesopotamia prior to the Uruk period are still obscure, since with few exceptions we still lack representative exposures of pertinent levels in the principal sites in the south. Nevertheless, many of the imports from the periphery listed in chapter 4 for the Uruk period are already attested in the archaeological record of excavated Ubaid sites, although commonly in limited quantities. Timber for roofing, copper for tools, utensils, and ornaments, flint and obsidian for blades and sickles, common stones for tools and utensils, semiprecious stones for ornaments, seals, and vessels, precious stones and metals for jewelry, mineral ores for paints, and bitumen for architectural waterproofing and hafting tools, to mention only a few of the most obvious examples, are attested in Ubaid and, occasionally, earlier contexts.<sup>5</sup>

More telling are data from northern Mesopotamia indicating that intense cross-cultural contacts with societies in the southern alluvium were already commonplace centuries before the Uruk expansion (Marfoe 1987; Sørenhagen 1986a). Developments along the Upper Khabur and Upper Euphrates ba-

sins remain ill defined,<sup>6</sup> but unequivocal proof of such early contacts exists for the Upper Tigris area. Especially compelling is evidence provided by the Ubaid levels of Tepe Gawra, particularly the impressive Level XIII complex of tripartite structures uncovered more than fifty years ago in the acropolis of the site (Tobler 1950). Whatever the function of these buildings (not all need be interpreted as temples), in them we observe the adoption by an indigenous northern culture of cultural traits and associated institutional forms that are of unmistakable southern origin—a process of acculturation not unlike that evinced later at Hammam et-Turkman and Arslan Tepe. This adoption prefigures patterns of interaction that were to become considerably more intense, widespread, and sharply delineated in the Uruk period.

A number of other clues from the alluvium itself add support to the suggestion that the origins of socioeconomic changes fueling the expansion of Uruk societies were already present in embryonic form by Late Ubaid times. First, some elements of the increasingly complex economy of alluvial societies of the Uruk period can be traced back to Ubaid times. A case in point is the development of relatively sophisticated reckoning systems. While the typical numerical notation tablets of the final phase of the Uruk period evolved directly from the slightly earlier balls with counters (Schmandt-Besserat 1977), functional equivalents such as tabletlike objects and tallying slabs, sometimes with notches or incisions, are attested in the earlier period.<sup>7</sup> Similarly, the emergence of full-time craft specialization which characterized Uruk societies also appears to have Ubaid roots. Archaeological evidence for this is provided by changes in the technology of ceramic production. By the final phase of the Ubaid period, a trend toward simpler painted motifs may be discerned in the pottery repertoire and a generally increasing proportion of the assemblage shows traces of slow wheel manufacture (Nissen 1983:340).

Regional settlement data also point to the Ubaid origins of the Uruk phenomenon. While overall population densities in the alluvium during

Ubaïd times were low, a surprising proportion of the total settled area by the Late Ubaïd period was represented by settlements that can be categorized as small urban centers on the basis of their size (Adams 1981:58–60).<sup>8</sup> Eridu, for example, was about 12 hectares in extent at this time, and Ur, nearby, was of similar size (H. T. Wright 1981b:325). Tell el'Ueili, near Larsa, was at least 10 hectares in extent, while Uqair further to the north was larger still (Adams 1981:58–59). These sites may be thought of as the direct forerunners of the much larger urban agglomerations of the Uruk period. A final clue is found in the development of public architecture in those early centers. In many cases, the massive structures of the Late Ubaïd period give way without interruption to larger versions in the Uruk period. This succession is most clearly seen in the context of what appear to have been temples at Eridu (Safar, Lloyd, and Mustafa 1981) and Warka (Heinrich 1982). Also revealing are equally impressive Late Ubaïd buildings of different function found elsewhere. A partially exposed structure at Tell Uqair, for example, is best characterized as a fortified storehouse on account of its massive walls and narrow corridors (Aurenche 1981: pl. 190). A similar function may be posited for the massive Ubaïd 4 "annex" at Tell el'Ueili, which has been interpreted as a granary by the excavators. It was attached to a nearby structure of tripartite type that, unlike the buildings at Eridu and Warka, was surely not a temple, since it lacked both a podium and an altar (Forest 1983: pls. 5–6). Larger still, but of more enigmatic purpose, is the Late Ubaïd building with *in situ* clay cones at Tell Mismar, near Warka (Schmidt 1978b). Whether secular or religious, these various early structures are no doubt indicative of the growing power of urban elites to command regional resources and of the emerging role of Ubaïd towns in the organization of production and in the storage and redistribution of agricultural and other surpluses (H. T. Wright 1986:326)—a precondition in the Mesopotamian case for cross-cultural exchange.

From the above, it may be inferred that the expansionary processes of Mesopotamian societies of

the Uruk period were firmly rooted in earlier developments. However, the details of that relationship still elude us. It is not known whether the Late Uruk expansion evolved gradually and without interruption from patterns of interaction that were well established earlier or whether it represented a quantum leap over what had gone on before. Obviously, much information can be gained from an examination of the earliest Uruk-period levels in areas of the northern periphery where the possibility of long-term interaction appears stronger, namely, the Upper Khabur and Upper Tigris areas. And if it can be shown that the floruit of the network of Uruk enclaves did indeed represent some sort of a quantum leap; then an interesting question is what role the domestication of pack animals played in providing the framework within which such an exponential advance could take place.<sup>9</sup>

Apart from more exposures of pertinent northern sites and more representative exposures of the major regional centers, what is needed in order to clarify the nature of contacts between societies in the Mesopotamian alluvium and communities across its northern periphery prior to the Uruk period is the application to the northern Ubaïd phenomenon of the sort of systematic regional assemblage and settlement analyses that have only recently been made for the Halaf culture over much of the same area (Davidson 1977; Watson and Leblanc 1971). Only then will it be possible to define issues of regional variation within the conglomerate of cultures that are now subsumed under the term "Ubaïd" in northern Mesopotamia, northern Syria, and southern Anatolia. This, in turn, will allow us to differentiate which of the northern Ubaïd traditions may have been directly influenced by external contacts with the alluvium and which constitute subsequent indigenous developments only indirectly related to the culture of alluvial Mesopotamia in the Ubaïd period.

Moreover, if the nature of the relationship between state formation in the Mesopotamian alluvium and cross-cultural contacts prior to the Uruk period is to be tackled directly, then the quantitative approach based on systematic screening of repre-

sentative samples that Wright introduced for the analysis of interregional exchange data at Farukhabad must be applied to the archaeological record of a much broader cross-section of pertinent Late Ubaid and Early Uruk sites in the south. Finally, careful collection of relevant faunal data from Late Ubaid and Uruk sites in the alluvium and contemporary sites in the periphery is needed in order to address the question of the possible role that the domestication of pack animals may have had in facilitating the Uruk expansion.

### The Initial Impetus for Expansion

I have argued in the preceding discussions that the Uruk expansion into the Syro-Mesopotamian plains may be conceived as a concatenation of autonomous actions and counteractions by a number of rival polities in the Iraqi alluvium responding, perhaps, to the colonization of Susiana and subsequent events there. Additionally, I have suggested that three strands of evidence combine to indicate that the need to secure access to required resources was a critical factor fueling the movement northward: (1) the strategic location of the Uruk enclaves, (2) the apparent (albeit not yet quantifiable) increase in the amount and variety of imports in Uruk sites, and (3) the very specific distribution of indigenous highland sites in which isolated Uruk artifacts are found. However, although surely crucial, the economic imperative just proposed is not sufficient in itself to explain the complex web of motivations and events that originally set in motion and sustained the Uruk expansion. Historically, in fact, expansion and colonization are also closely interwoven with the self-aggrandizing ideologies of ruling elites (Conrad and Demarest 1984). While motivations are not often easily elucidated with the data available to prehistorians, archaeologists who fail to heed the substantivist message of Karl Polanyi (1957) to the effect that in precapitalist societies economic behavior is always embedded in broader sociopolitical and ideologic systems do so at their peril.

In the context of Uruk-period Mesopotamia, this point is raised by Robert McC. Adams (*pers. comm.*, 1987) and Carl Lamberg-Karlovsky (1989),

who see the politico-religious ideologies of emergent, self-conscious urban elites as a pivotal factor in the Uruk expansion. This observation hints at the narrow focus of the foregoing analyses of the Uruk phenomenon—a limitation that can only be partially redressed by the judicious application of models derived from pertinent historic and ethnographic situations. In the final analysis, however, the lack of coherent written records at the very onset of Mesopotamian civilization means that we simply cannot yet properly assess the role of, for example, the desire to spread Sumerian religion as an incentive for emigration. Nor can we evaluate the degree to which expansion was implemented as a conscious state policy by a specific ruler or rulers bent on self-aggrandizement or by a particular interest group which perceived it as advantageous. One possible example of the latter is considered by Rita Wright (1989), who suggests that the requirements of textile production for export may have been an element in the movement into areas of the Syro-Mesopotamian plains propitious for extensive sheep and goat husbandry. Also unknown, but in all likelihood significant, is the role that increasingly onerous urban demands on the population of a newly dependent countryside may have had in spurring emigration as both an escape from oppression (Johnson 1988/89) and as an opportunity for advancement—motivations that were critical in the case of the European colonization of the New World (Scammell 1989) and which also could have been relevant to the Uruk case.

Finally, a number of scholars see population pressure in the southern Mesopotamian core and the need for agricultural land elsewhere as important forces in the Uruk expansion (Areshian 1990; Lamberg-Karlovsky 1989; Schwartz 1988a). Based on the apparently substantial growth in population in the Mesopotamian alluvium throughout the eight hundred years or so between the Late Ubaid and the Late Uruk periods, this view finds some support in newly recovered evidence for additional Uruk enclaves and associated villages in the Birecik-Jerablus area of the Euphrates, suggesting that previous estimates for the number of emigrants from the alluvium in Uruk times must be increased.

However, the relationship, if any, between population growth in the alluvium throughout the late fifth and fourth millennia and the Uruk expansion still eludes us. This is partially owing to problems in estimating population densities for the prehistoric periods in the alluvium, since pertinent Ubaid sites are all too often deeply buried under later alluviation and are seldom recorded in surveys, particularly in the northern portions of the alluvial plain (Adams 1981). In any event, however, overall population density in southern Mesopotamia can only be thought of as a contributory factor: although high, population levels in the second half of the fourth millennium were only a portion of those attained in the earlier half of the third millennium, when no comparable processes of emigration are attested. Moreover, estimates for total occupied hectares (and population) in the Late Uruk period barely differ from those of the preceding Early Uruk time range (Adams 1984:98, table 1), so that population pressure alone can hardly be postulated to explain the Late Uruk expansionary burst.

Potentially more important than total population density as a causal factor in the Uruk expansion is population dislocation as a consequence of environmental catastrophe or political crises resulting in relatively sudden and unmanageable social or environmental stresses in specific portions of the southern lowlands. Much could be gained from exploring the possibility that the Uruk-period population shifts from the northern to the southern and western sectors of the alluvium caused by the natural drying up of a major channel of either the ancient Tigris or the Euphrates (above, chap. 2) may have had a role not only in precipitating the colonization of Susiana—as has already been suggested—but also in initiating the scramble northward into Syro-Mesopotamia.

#### The Mechanics of Cross-cultural Exchange

In an influential article published over fifteen years ago, Paul Wheatley (1975:230) criticized current archaeological reconstructions of ancient exchange:

So far as ancient commerce is concerned such studies as exist have been undertaken with the

limited aims of identifying within a more or less static framework the commodities traded, and charting the routes over which they moved. Only nominal attention has been devoted to exchange values, and none at all to the fundamental and exigent question of the precise modes of exchange involved and the manner in which they articulated with political, administrative, social, religious, and other institutions.

Wheatley's critique, alas, remains all too applicable today. In the Uruk case, for instance, we know little about the ways in which the intrusive enclaves, stations, and outposts may have interacted with indigenous communities in the periphery. To be sure, I have speculated on the general impact of that interaction on the social texture of native communities, and moreover, I have also argued that it may be concluded from the settlement pattern of the enclaves that well-developed local trade networks were already in place prior to the Uruk intrusion and that a measure of indigenous collaboration must be presumed. But the forms such collaboration may have taken are still obscure and the nature of preexisting intraregional trade networks through which highland resources reached the northern plains also remain largely undocumented.

Were resources from the highlands brought first to strategically situated indigenous communities in the northern plains—to Gawra, for example—and through them to the enclaves, or did commodities bypass such sites altogether and reach the enclaves directly? If the former was the case for some commodities, was exchange between indigenous communities in the highlands and the northern plains of the reciprocal (down-the-line) type, or was it more directional (Renfrew 1975)? Or if other commodities were funneled directly into the enclaves, what role did Uruk outposts in the highlands such as those uncovered at Godin and Sialk play in the procurement process? Moreover, which commodities reached the alluvium through the northern enclaves, which enclaves specialized in the procurement of which commodities, which commodities were obtained directly without mediation (via the Diyala), and which were acquired via Uruk states in southwestern Iran? Finally, how was the exchange organized? How was required information

on supply and demand obtained, for example, and further, how were values fixed for the commodities traded and transport arranged, who mediated contacts, and on behalf of whom were intermediaries acting?

In view of the inherent limits of the purely archaeological evidence at our disposal, many of the questions just posed must remain unanswered, particularly those dealing with details of the organization of the exchange. It is unlikely that we will ever be able to reconstruct the ever-changing range of interactions and negotiations leading to the successful conclusion of regular transactions in the Uruk period.<sup>10</sup> And while it would be tempting to try to answer some of these questions by extrapolating into the fourth millennium evidence from third millennium myths (such as the cycle dealing with interaction between Uruk and Aratta), it should be remembered that those myths presume the existence of peripheral polities whose power rivaled that of alluvial states. It was argued in the preceding chapter that the stunning success of the Mesopotamian penetration of its periphery in the Uruk period (as compared to later episodes of expansion such as that of the Akkadians) is predicated precisely on the absence of powerful potential rivals in the periphery. Equally unsuitable for the same reasons would be explanatory models based wholly on the later well-documented case of Old Assyrian trade networks.

Present-day political circumstances permitting, however, specific regional studies could be undertaken in order to clarify the broad outlines of the interaction between the Uruk outposts and indigenous communities over particular portions of the Mesopotamian periphery in the late fourth millennium. One important problem of interpretation is the role played by small sites with a broad complement of Uruk ceramics situated in the immediate vicinity of much larger Late Chalcolithic regional centers in areas away from the principal Uruk enclaves. At least three such sites, it will be remembered, have been identified by the Balikh River, and surely other such sites must have existed elsewhere. Whether or not these sites served as "stations"

along a trade route, operating with the implicit permission of nearby local rulers, as was suggested, or whether they played a more complex role could be ascertained by excavation. With broad enough exposures and the proper recovery techniques, it should be possible to draw inferences as to their nature and function, particularly as comparisons could be drawn with the one Uruk station for which a broad exposure already exists, Hassek Höyük.

More difficult given today's political climate would be to clarify the nature of interaction between Uruk outposts and indigenous communities in the highlands and, further, the organization of exchange between highland areas and the northern plains. Most promising (but certainly impossible at this time) would be further examination and trial excavations of strategically located sites with evidence of an apparently broad range of Uruk ceramics in the central and southern Zagros, of which, it will be recalled, a number have been identified. This would go a long way toward clarifying the locational pattern and possible existence of other Uruk outposts in the highlands apart from Godin and Sialk, and the modes of exchange by which commodities were acquired.<sup>11</sup> In turn, this would allow inferences to be made as to the interplay between indigenous and Mesopotamian elements in the procurement of resources.

An immediate and practical way to begin to delineate the interlocking supply and demand systems feeding the growth of Uruk states would be to apply the sort of chemical characterization analyses already devoted to specific imported materials like obsidian (G. A. Wright 1969; Renfrew and Dixon 1976), steatite/chlorite (Kohl, Harbottle, and Sayre 1979), asphalt (Marschner and Wright 1978), and silver and lead alloys (Yener 1983, 1986; Yener et al. 1991) to a broader range of commodities imported into the alluvium during the Uruk period. Much information of potential value could come from the inclusion of fourth millennium copper objects from the northern enclaves and from sites in the alluvium and Khuzestan in the Mesopotamian Metals Project at MASCA (Stech and Piggot 1986). Other ideal candidates for further study are gold



and semiexotic stones. A systematic effort to trace the sources for imported timber found in pertinent architectural contexts in the alluvium would also be very useful.

In the absence of associated regional survey and test excavation programs, the sort of characterization studies just suggested would reveal little about the nature of the exchange itself. But they would at least make it possible to trace, however dimly, the outlines of some of the overlapping regional interaction subsystems by which various commodities reached the Mesopotamian lowlands in the fourth millennium. Moreover, coupled with a review of existing evidence from known enclaves and relevant southern sites and (one hopes) with data from new excavations, such an approach would also make it possible to address the associated questions of regional and enclave specialization in the importation of specific resources during the Uruk period.

#### Undiscovered Uruk Settlements in the Periphery

If the strategic rationale underlying the location of the Uruk enclaves proposed in chapter 3 is correct, then other Uruk enclaves and stations may still remain to be found in the northern plains between the Euphrates and the Tigris. A number of suggestions as to the locations of these hypothesized settlements can be put forward for further testing. One possibility is that landlocked enclaves and stations could exist along the principal east-west routes crisscrossing northern Mesopotamia, away from the rivers. Whether or not this was so cannot yet be ascertained, but recent surveys and excavations in the Jezira region of northwestern Iraq and the Sinjar plains of northeastern Syria promise eventually to help clarify this question. It is also possible that further Uruk enclaves are still to be identified in portions of the principal waterways not yet intensively surveyed. In view of their importance throughout the historical periods, it is possible that the environs of Nuseybin and Ras el'Ain along parallel branches of the Upper Khabur will yet yield traces of Uruk outposts. Similarly, along the Upper Tigris we should expect to find another

Mesopotamian enclave well north of the Nineveh/Mosul area, possibly somewhere along the Tigris in northern Iraq near Faishabur, the traditional terminus of routes from the Euphrates skirting the southern flank of the Tur Abdin massif. Last, it is also likely that further stations linking enclaves still remain to be found. Given the historical importance of the Balikh as a conduit between the Samsat area and the lower elbow of the Euphrates bend, it would not be surprising to find more stations along its course in southeastern Turkey, possibly somewhere along the way to Harran. Another largely unexplored area in which further stations could be expected is the Tigris basin south of Mosul.

#### THEORETICAL REPRISE AND CROSS-CULTURAL PARALLELS

A critical question must still be examined before closing. Is the conceptual framework adopted in the introduction applicable to developments taking place as early as the fourth millennium B.C.? This question is important, since concepts such as "informal empire" and "world system" represent models developed specifically for the explanation of phenomena connected with the expansion of Europe and the growth of capitalism in the modern world and were never intended for use outside of that historical juncture.

The use of modern eurocentric models in an ancient Near Eastern context is justified, I believe, on two accounts. The first is that the world system/informal empire conceptual framework is not put forth as a prescription of conditions that must have occurred. Rather, it is intended as a model of possibilities, hypotheses to be tested against available archaeological data, which all too often are fragmentary and difficult to interpret. More important, however, the use of the framework is justified because changes resulting from the emergence of modern capitalism may have greatly intensified and brought into sharp focus relationships of asymmetrical exchange and economic dependency leading to unequal development, but by no means created those relationships (Ekholm and Friedman 1979; Gills and Frank 1991). This is clearly understood

by Stanley Diamond, who argues that "imperialism and colonialism are as old as the State; they define the political process" (1974:5). Early antiquity is, in fact, full of clear examples of such asymmetrical interactions. A well-documented case is that of the Roman presence in the Maghrib following the final defeat of Carthage in the second century B.C. A. Demans (1975), a historian, has presented a compelling case for understanding the consequences of Roman occupation of North Africa under the Republic within the framework of modern studies of development and underdevelopment. Using a variety of literary and historical evidence, he documents in detail the economic, social, and political consequences of Roman policies that systematically transformed what had for centuries been a flourishing area under the leadership of Carthage into little more than a specialized producer of agricultural products for an expanding Rome—a role complementing that of Spain as supplier of minerals. The thorough character of this transformation in the Maghrib, argues Demans, helps explain both the eventual collapse of Roman authority in the area and the relative lack of further development well into the Islamic era.

Prehistory, too, abounds in examples that can be suitably interpreted in terms of the conceptual models underpinning our discussions. Indeed, some authors contend that the development of asymmetrical core-periphery relationships is at the very root of pristine state formation. Kajsa Ekholm, for instance, asserts that cross-culturally "the characteristic condition for the development of civilisations is access by a local society to a resource base wider than that contained within its own boundaries" (1981:249). While it is too early to assess whether or not Ekholm's insight is universally applicable to the development of pristine states, it appears certain that the Uruk phenomenon, with its complementary processes of physical expansion into nearby areas and the placing of core outposts at key junctions of the outlying periphery was by no means unique. In fact, I am inclined to believe that such complementary exploitative strategies may

well represent the normal form of cross-cultural contact for pristine civilizations. The use of isolated outposts as a contact strategy is well documented through history in situations of initial colonial contact between areas with varying resource endowments and societies at markedly different levels of sociopolitical evolution (Curtin 1984; Smith 1976), and by definition, all cases of pristine state formation must involve interaction between societies at significantly different levels of complexity.

Four examples will suffice to illustrate the applicability of the world system/informal empire paradigm to prehistory in general and the expansion of early states in particular. As in the Uruk case, following closely on the heels of initial state formation, each confronts us with parallel processes of expansion into immediately contiguous areas and the placing of outposts at considerable distances away from the center, commonly at isolated positions astride trade routes, near resource concentrations, or in the midst of centrally positioned and locally powerful native communities. These are (1) the Predynastic Upper Egyptian intrusion into the Nile Delta (Hassan 1988; Wenke 1989) and the subsequent establishment of Egyptian outposts along the northern rim of the Sinai Peninsula and portions of southern Palestine (Oren 1989; Stager 1992) at the very end of the fourth millennium B.C.; (2) the spread of Mature Harappan polities from their Indus valley core throughout the Kutch-Guharat areas of western India (Possehl 1980) and the subsequent establishment of Harappan outposts along the Oxus basin in Afghanistan (Francfort and Pottier 1978), the Makran coast of Pakistan (Dales 1962), coastal Oman (Cleuziou, Reade, and Tosi 1990), and, possibly, southern Mesopotamia (Parpola, Parpola, and Brunswig 1977) in the second half of the third millennium B.C.; (3) the consolidation of the Tiwanaco state throughout the Altiplano area of the south central Andes (Browman 1978) and the foundation of Classic and Late Tiwanaco outposts in coastal valleys of southern Peru (Goldstein 1989) and, possibly, northern Chile (Mujica 1985) throughout the Middle Horizon period (ca.

A.D. 600–1000); and (4) the expansion of the Teotihuacán state from the valley of Mexico into immediately surrounding highland valleys (Millon 1981) and the ensuing foundation of Teotihuacán outposts outside of the central Mexican highlands, such as at Matacapán (Santley 1989) in the Tuxlas Mountains of Veracruz and at Kaminaljuyú (Sanders 1977) in the valley of Guatemala during the Middle Classic period (ca. A.D. 300–600).

To be sure, it would be foolhardy to extrapolate indiscriminately into the past modes of social relationships and organization that only emerged as a result of specific, nonreplicable historical circumstances. Whatever the actual processes that culminated in the expansion of Mesopotamian societies of the Uruk period, there is no need to postulate, for instance, the existence of either an “Uruk East India Company” or an “Uruk Encomienda” system. Moreover, Kohl (1987a) is no doubt correct when he observes that there were no major technological gaps in the ancient world such as commonly existed in the modern case between core and periphery groups and that communication and transportation are now facilitated by technologies that are exponentially more efficient than those available to early Old and New World civilizations. Nevertheless, this does not mean that early systems of asymmetrical core-periphery relations, such as the Uruk, were of an inherently different nature than later ex-

amples, but only that they were less integrated and therefore less efficient and more fragile. This, in turn, may help explain both the variety of peripheral responses to the intrusion of core outposts and why early systems commonly collapsed within a relatively short span of time and often well before the pernicious realities of long-term unequal exchange asserted themselves in the affected peripheries. Nonetheless, it stands to reason that differences in the sophistication of sociopolitical and economic organization and administrative procedures between the Uruk city-states and the peripheral communities with which they came into contact may have been of almost as much import in the ancient world as differences in manufacturing and transportation technologies proved to be in modern times. Moreover, while ancient exchange never matched the intensity of the transoceanic trade of modern colonial times in absolute terms, it must have been as powerful a force for change in the context of less-developed indigenous societies in the periphery of the early expansionary states as modern commerce in staples and bullion would prove to be much later.

The Uruk expansion was thus no aberration. It merely represents an example—possibly the earliest—of a mode of cross-cultural interaction repeated many times in history, albeit at sharply varying scales and rates of complexity.



# Notes

## CHAPTER 1

1. The terms "trade" and "exchange" are used here interchangeably and in their broadest sense to refer simply to the transfer of goods between two or more parties by barter or sale, whether directly (face-to-face) or indirectly (through middlemen).

2. The term "market" is used here in a generic sense and no implication is made as to the existence of market trading (Polanyi 1975:150) as a mode of exchange in the fourth millennium B.C.

## CHAPTER 2

1. The problem lies in ascertaining whether the 16 hectare Apadana mound was abandoned after the Middle Uruk period as is often claimed (Johnson 1973:70–71; Amiet 1986:63). The recent exposure of an Uruk kiln area in the Apadana indicates that this was not the case. The materials recovered have precise parallels up to Level 18 of the Acropolis I sounding (de Miroschedji 1976:22–23), a level assigned by Johnson (1973:45) to the Late Uruk period. Additionally, as noted by Dittmann (1986:183), a variety of evidence from earlier French excavations also suggests that the Apadana may have been at least partially occupied in the Late Uruk period.

2. The absence of artifacts characteristic only for Level 17 of the Acropolis I sounding at Susa from Chogha Mish suggests that the hypothesized collapse took place at the time of Susa, Acropolis I, Level 18. This inference is based on the following evidence:

a. While impressed balls are common at Chogha Mish, where they occur in houses, numerical notation tablets are rare and what few examples do exist were recovered principally in pits cutting into the houses in which most of the balls were found (H. J. Kantor, pers. comm., 1985).

b. The preponderance of balls over tablets as accounting devices recalls the pattern of Level 18 at Susa and contrasts with that of Level 17, when tablets become far more common than balls (Dittmann 1986a:336).

c. The apparent absence at Chogha Mish of numerical notation tablets of the convex cushion-shaped type, sometimes with a single pictographic sign (e.g., fig. 27I), which at Susa do not appear prior to Level 17 (see chap. 3, n. 29).

d. A number of characteristic pottery types with later Proto-Elamite connections restricted to Level 17 at Susa appear absent at Chogha Mish, in spite of extensive exposures. These types include: tall beveled-rim bowls (Le Brun 1978a: fig. 20:9); rimless, bag-shaped jars with long through spouts (Le Brun 1978a: fig. 24:9–10); and four-lugged jars with alternating black and white bands (Le Brun 1978a: fig. 53:4).

3. Particularly important for these correlations is the first use of cylinder seals. It is difficult to ascertain exactly when they were introduced at Warka, as much of the pertinent evidence remains unpublished (Nissen 1986b). Moreover, many of the impressions that are published come from levels of the Anu Ziggurat sequence that cannot be precisely correlated with specific levels of the better-understood Eanna sequence. Recent reassessments of the glyptic evidence from that latter sequence, however, suggest that cylinder seal impressions and impressed artifacts are common in the various Level IV subphases. Whether or not they started earlier is unclear, although a small number of impressions, unfortunately without clear architectural association, are assigned to Level V (Brandes 1979; Dittmann 1986c). A conservative assessment, therefore, would associate the first ap-

pearance of cylinder seals at Warka with Levels VI to IV of the Eanna sequence, which exhibit significant continuity on both ceramic and architectural grounds (Nissen 1986b). At Nippur, the earliest seals (of the so-called Jemdet Nasr type depicting pig-tailed women) appear in Level XVI of the Inanna Temple sequence and the earliest cylinder seal impressions in Level XV. It is not entirely certain, however, how representative the Nippur evidence is since the exposed area was minimal (Wilson 1986). At Susa the situation is clearer, although the exposed area is also relatively restricted: the earliest cylinder seal impressions are reported in Level 20 of the Acropolis I sounding (Le Brun, cited in Dittmann 1986:333, n. 5), the earliest impressed tablets in Level 19, and the earliest impressed balls in Level 18, although the related tokens were also found in Level 19 (Dittmann 1986: table 50).

4. While well-preserved monumental structures of the Uruk period have not been identified in the Susiana plain, glyptic representations indicate that such structures must have been of the well-known tripartite plan with elaborate exterior niches and buttresses that is typical for Uruk architecture. One structure depicted in a sealing from Susa (fig. 3Y) illustrates what without doubt is a temple (marked by horns) on top of a buttressed platform in a style identical to actual Uruk-period buildings exposed in the alluvium (e.g., at Warka [fig. 3AA], Tell Uqair [Heinrich 1982: fig. 105], and Eridu [Safar, Lloyd, and Mustafa 1981:78–82]) and in some of the northern Uruk enclaves (e.g., Tell Qannas [fig. 17W], Jebel Aruda [fig. 6], and Tell Brak [fig. 18A]).

5. Compare, for example, Amiet 1972: nos. 695, 700 (Susa); Amiet 1986: fig. 22:1 (Chogha Mish); and Amiet 1980: nos. 636ff. (various and unknown provenances, principally from Warka).

6. For detailed comparisons of similarities and differences between Uruk glyptic motifs in Susiana and the alluvium, see Amiet 1972, 1986. Amiet's observation (1979a) that secular scenes in Uruk glyptic seem more common at Susa in particular and Khuzestan in general than in the Mesopotamian alluvium, where religious scenes predominate, should not be interpreted to mean that the two traditions are substantially different, particularly as the evidence from Susa has been dealt with thoroughly and the evidence from Warka remains only incompletely published (Nissen 1986b). Rather, the iconographic differences that Amiet draws attention to are more likely to reflect the varying nature of the contexts in which the glyptic material was found. Most of the evidence from southern Mesopotamia comes from the Eanna and Anu precincts, arguably the religious/administrative center of Uruk. In contrast, insofar as can be ascertained, sealings from Susiana appear to come from contexts that are largely secular and private in nature. This is clear in the case of sealings recovered in new excavations at Susa and Chogha Mish (Le Brun 1971, 1978a); Delougaz and Kantor, n.d.), although the nature

of the original context for much of the Uruk glyptic from Susa excavated earlier in the century can no longer be ascertained.

7. The types in question include a variety of forms bearing simple painted motifs and a distinctive small pointed bottle with an open mouth (Nissen 1972:100–101, fig. 30d-e; von Haller 1932: pls. 17D:r, s–u [Eanna XIII]; 18A:k'–n' [Eanna XII]; 18B:a–d [Eanna XII], z, a'–c' [Eanna XI–X]; and 18C:k, q'–t' [Eanna IX–VIII]). See Sørenhagen 1986b for a clarification of the context of the Warka parallels.

8. For a discussion of the pertinent evidence, see below chapter 3, note 29.

9. Of a total of sixteen types assigned to the Early Uruk period in Susiana, eleven are not reported at Warka (Johnson 1973: 54–55, Types 1, 3–10, 13, and 15).

10. Johnson 1973:54–55. The types in question are Type 2 (to Johnson's discussion add the following occurrences of this type in the Eanna sequence: von Haller 1932: pls. 18C:e' [Eanna IX–VIII], 19C:1 [Eanna VI]); Type 11; Type 12 (add von Haller 1932: pls. 18C:b' [Eanna IX–VIII], 18D:i [Eanna VII], and 19B:e', h' [Eanna VI]); Type 14 (add von Haller 1932: pls. 18C:u [Eanna VIII], 19B:k' [Eanna VI], and 19D:a [Eanna VI]); and Type 16. For a clarification of the context of the Warka parallels, see now Sørenhagen 1986b.

## CHAPTER 3

1. Although the 200–250 millimeter of average precipitation per year is usually taken as the minimum necessary to ensure reliable crops, this figure may be too low (Fischer 1978:375–76 n. 1). A case in point is provided by a study of variation in annual rainfall patterns from 1928 to 1946 within portions of the Syro-Mesopotamian plains within modern-day southeastern Turkey. Interannual variability was found to be so high that for at least eleven out of the nineteen years for which data are available, most of Urfa, Adiyaman, and Gaziantep provinces, all well within the 300–400 millimeter average range, had to be classified as semiarid (Erinç 1950:223, fig. 9). Similarly, to the south in Syria, during a recent dry spell lasting three years (1958 to 1960) large portions of the country that usually fall well within the 300–400 millimeter annual precipitation average became marginal. The areas affected included the otherwise usually well-watered environs of Aleppo and even substantial portions of the Upper Khabur region (Wirth 1971:91–92, maps 3–4).

2. In his *Geography*, Strabo, for example, distinguishes clearly between the territory of *Coele Syria*, namely, the Levantine coastal strip, the Bekaa valley, and the Lebanon/Anti-Lebanon range, from Syria proper, which he defined as follows: "Syria is bounded in the north by Cilicia and Mt. Amanus. . . . on the east by the Euphrates and *Arabia Scenitae* east of the Euphrates, and on the south by *Arabia Felix*" (1966:16.II.1–2).

3. Sites in which van Loon (1967:3 n. 3) reports

unspecified Uruk materials are Tell Zreyjiye-south, near Sheikh Hassan on the east bank of the river, Mureybit Ferry, also on the east bank but just south of Mureybit, and Tell Kreyon on the west bank of the river but on the southern end of the area flooded by the dam. Van Loon also reported Uruk pottery at Tell Abu Hureyra. However, no such materials were identified during excavations at the site (A. Moore, pers. comm., 1990).

4. Save for Carchemish, the Uruk sites in southeastern Turkey illustrated in figure 8 were identified in a recent survey under my direction (Algaze 1989a; Algaze et al. 1991). The presence of Uruk pottery at Jerablus Tahtani in Syria is reported by Gil Stein (pers. comm., 1989), who visited the site in 1988 as part of the Chicago Euphrates Project's survey of areas affected by the Tishreen Dam reservoir. Uruk levels at Jerablus, also in Syria, are reported by Strommenger (1980a:62).

5. The seal in question was found at an undetermined depth under the second millennium wall surrounding the Carchemish acropolis (Woolley 1921: pl. 25B:2; compare fig. 19L [Nineveh] and Amiet 1980: no. 348 [Warka, out of context]).

6. A rough impression of the depth of Uruk occupation in the acropolis mound at Carchemish may be obtained from the fact that a typical four-lugged jar with characteristic shoulder incisions and plum-red burnished wash is said to have been recovered at an elevation between 22 and 23 meters above the level of the Euphrates floodplain (Woolley 1952:228, pl. 66A), while beveled-rim bowls continue to be common three to four meters above this level, at the 26-meter contour (ibid). Similarly, another Uruk jar with a characteristic spout attached to the rim (fig. 10F; compare Le Breton 1957:96, fig. 10:16 [Susa B]) was found inside a room at an elevation of 26–27 meters above the same datum (cf. the schematic section in Woolley 1952:209, fig. 84).

7. A second cylinder seal from Samsat, a surface find, is also engraved in a similar style—in this case a row of erect stylized animals (goats?), once again under ladderlike motifs (Özgül 1987:431, fig. 9). This seal is of interest because the version of the animal-file motif it depicts can be readily paralleled in the glyptic repertoire of Uruk sites elsewhere, including Jebel Aruda (van Driel 1983:38–40, nos. 5 and 9), Susa (Amiet 1972: nos. 525 [Late Uruk] and 911 [Proto-Elamite]) and Warka (Schott 1933: pl. 28E [Eanna III]; Amiet 1980: no. 379 [from the Sammelfund, Eanna III]). Similar seals are known from Syrian sites, unfortunately all of uncertain context and chronology (e.g., Amiet 1963:66–67, fig. 12 [illustrated here as fig. 36D, said to be from Ras Shamra, context unknown] and Buchanan 1966: no. 716a).

8. The small site near Bozova is Söğüt Tarlası, some 25 kilometers away from Samsat (Benedict 1980:178, pl. 18). Sites in the vicinity of Samsat were identified in Özdoğan's survey (1977). In 1983, with Dr. Özdoğan's kind permission, I was able to examine the

collection which is now stored at the Prehistory Laboratory of the University of Istanbul. The remarks that follow are based largely on observations made at that time. Sites yielding grit-tempered ceramics and beveled-rim bowls of Uruk type in addition to indigenous chaff-tempered pottery are Kurban Höyük (U50:7), situated some 7 kilometers downstream from Samsat but on the opposite bank (see now Algaze et al. 1990); Hayaz Höyük (U50:4) some 15 kilometers southwest and on the same bank (see now Thissen 1985); Grik (T52:20) about 4 kilometers due north away from the river; Karadut Mevkii (T51:33) some 12 kilometers upstream from Samsat (see now Schwartz 1988a), Lidar Höyük (T51:40) some 9 kilometers from Samsat but on the opposite bank, and Torçik Mevkii (T51:49) about 1 kilometer upstream of Lidar.

9. The sites in question are Toprak Kale (S52:19) and Hassek Höyük (S52:18) on the east bank of the river and Tille (S52:11) on the opposite bank almost directly across from Hassek (Özdoğan 1977).

10. The full extent of the site is 10.6 hectares. Uruk ceramics, however, were only observed eroding out of the lower 10 meters or so of the much smaller high mound, which is about 125 meters in diameter.

11. Since the date of the Eye Temple sequence at Brak is crucial to my argument, it is necessary to review the evidence marshaled by Mallowan (1947:31) to assign all the structures save for the earliest (Red) to the Jemdet Nasr period. That dating is said to rest on the similarity of "seals, amulets, pot forms, architecture, and applied decoration" at Brak with comparable materials from Jemdet Nasr levels elsewhere. Although largely accurate at the time Mallowan wrote (save for the pottery), a variety of evidence now indicates that this assessment can no longer be sustained.

A reconsideration of the evidence from Uruk-period levels at Tello (Buchanan 1967:535) and recent evidence from sites such as Habuba Kabira-süd and Jebel Aruda in northern Syria and Chogha Mish and Susa in southwestern Iran leaves no doubt that much of so-called Jemdet Nasr style glyptic (characterized by schematic and carelessly drilled designs) appears already in the Uruk period (Nissen 1986b:327–28). Similarly, many of the amulets that Mallowan assigns to the Jemdet Nasr period can now be shown to be *in situ* in Uruk levels as well (for references, see below chap. 4, no. 14). The eye amulets which figure prominently in Mallowan's argument, for instance, appear not only in Jemdet Nasr levels at Khafajah (Sin IV), as correctly noted by Mallowan, but are now also found in Uruk-period contexts in a variety of sites in Khuzestan, for example at Chogha Mish (Delou-gaz and Kantor, n.d.) and at KS 54 (G. Johnson, pers. comm., 1988).

But the main argument used by Mallowan to assign the Eye Temple to the Jemdet Nasr period was the similarity of its plan, platform, and wall decoration to corresponding features of the White Temple at Warka and the

Painted Temple at Tell Uqair, both also considered to be of Jemdet Nasr date by Mallowan (1947:32, 58, 61–62). This argument, too, can no longer be supported. Recent reconsiderations of the evidence from Warka now indicate that the White Temple must be redated to the Uruk period (Schmidt 1978a; Strommenger 1980b:486–87). The situation at Uqair is similar. Although the “Chapel” by the side of the temple platform is certainly of Jemdet Nasr date, the Painted Temple itself and associated platform, which form the core of Mallowan’s parallels, are stratigraphically earlier and unquestionably Uruk in date, as correctly noted by the original excavators (Lloyd and Safar 1943:148–49).

12. For other out-of-context Uruk seals and seal impressions from Brak, see Mallowan 1947: pl. XXI:11, 15, 17; Buchanan 1966: nos. 708, 709, 711, 714, 716, 726; and D. Oates 1985: pl. XXXa. For other out-of-context Uruk ceramic types from Brak, see J. Oates 1986: fig. 3, pls. 4–5.

13. Compare, for example, Amiet 1972: no. 493 (Susa); Schott 1933: pl. 24A; and Lenzen 1960: pl. 19A (Warka).

14. For the hunting scene, compare Amiet 1972: no. 604 (Susa). For the animals with crossed necks, compare Amiet 1972: nos. 479, 588 (Susa), and Amiet 1980: no. 195 (Warka).

15. For further references to this seal type and design, see Le Brun 1971: fig. 43:10 (Susa, Level 21[!]), and Amiet 1980: nos. 352 (Tello), 348 (Warka, out of context).

16. Pertinent evidence on routes and communications during the classical age may be gleaned from a variety of archaeological, literary, and historical sources. Among the most useful archaeological sources are a series of wide-ranging overland and aerial surveys conducted during the 1930s and 1940s (Poidebard 1934; Poidebard and Mouterde 1945; Gregory and Kennedy 1985). These surveys provide data on the actual layout of routes across Western Asia in the Roman period and complement surviving written sources. Of particular importance among the latter are Herodotus’ *History*, Pliny’s *Natural History*, and Strabo’s *Geography*. Also useful are a number of traveler’s accounts, such as the detailed itinerary of Isidore of Charax, the *Parthian Stations*.

But without question the single most important historical source is the *Tabula Peutingeriana*, a map dating from the fourth century A.D. that purports to show the trade routes of the Roman world from England to India. Although the *Tabula* has been shown to contain a number of inaccuracies and omissions, it still represents the best framework available for the layout of routes across Western Asia in the Late Roman period (Miller 1962).

17. The location of Bezabde has been the subject of considerable debate (summarized in Lightfoot 1983). The problem now appears solved by the finding of a large Late Roman occupation with substantial standing architecture spanning both sides of the Tigris River some 13

kilometers north of Cizre, which almost certainly can be equated with the Bezabde/Phaenicia of Ammianus’ chronicle. For details on the site, see now Algaze 1989a; Soylemez and Lightfoot 1991.

18. The overland route alongside the Tigris seems to have been preferred by the Seleucids, at least if one is to judge from the orientation of their colonies and new foundations across northern Mesopotamia, and from the fact that Seleucus Nicator replaced the Euphrates-bound Babylon with a new Tigris-based capital, Ctesiphon (Stark 1966:102). Moreover, the Tigris route was also important throughout the Late Roman period: Trajan used the overland route alongside the Tigris in his descent toward Ctesiphon early in the second century A.D. (Stark 1966:210), and that route was the one known to the anonymous author of the *Tabula Peutingeriana*, although, admittedly, his map reflects conditions at a time when most of northern Mesopotamia was under undisputed Roman control (Miller 1962: map X).

19. Additionally, Uruk pottery of undetermined type is also reported at the important site of Tell Zaidan, in the immediate environs of Raqqa (Sürenhagen 1986a:15). In the absence of excavations or more precise site surveys, however, the nature and extent of Uruk occupation at Zaidan, if any, must remain a matter for future investigation.

20. On the west bank: Site 1 (Mulla Matar), Site 7 (Ziyade), and possibly Site 26 (Fleti-north). On the east bank: Site 40 (Umm Qseir-west) and Site 58 (Masnaqa) (Monchambert 1984:2, 5–7, n. 8).

21. Presumably, one of these sites is Tepe Deshavar, 7 kilometers from Kermanshah, where Braidwood (pers. comm., 1988) and his colleagues excavated a variety of Uruk pottery types.

22. With few exceptions (e.g., Dyson 1965:227), Period IV at Sialk has traditionally been thought to post-date the Uruk period (e.g., Alden 1982:615; Lamberg-Karlovsky 1985:60). This was so principally on the strength of typical Proto-Elamite ceramics (e.g., Ghirshman 1938: pl. XXVI:4) and fully developed Proto-Elamite administrative tablets (e.g., Ghirshman 1938: pls. XXXI:1 and XCII:S28) found in Period IV levels at the site. Recently, however, Pierre Amiet used unpublished excavation records to differentiate more precisely the provenance of most of the published Sialk IV materials. This reanalysis allowed Amiet (1985, 1986:66–70) to demonstrate that early third millennium materials in Sialk IV were found only in the latest level assigned to that occupation (IV.2) and that the materials from the much better preserved Sialk IV.1 phase appear to be largely Late Uruk in type.

23. For other examples, see Ghirshman 1938: pl. XCIV:S1609-S1614, S1633, S1634. For clarification of context, see Amiet 1985:306.

24. Compare, for example, the corpus of sealings and accounting devices from Uruk levels of the Acropolis I sounding at Susa (Le Brun and Vallat 1978; Le



Brun 1978b) and those from Jebel Aruda (van Driel 1982, 1983) and Habuba Kabira-süd (Töpperwein 1973; Strommenger 1980a: figs. 55–57). For an iconographic study of the sealings from the various regions, see Teissier 1987.

25. This dating contradicts that of Sürenhagen (1986a:32), who assigns the Habuba/Qannas/Aruda complex to the Eanna VII-VI time range, principally on the basis of ceramic parallels.

26. Nevertheless, it should be noted that according to Le Brun (the excavator of the Acropolis I sequence at Susa) the el-Kowm 2 Caracol ceramics belong to a “developed but not final phase of Uruk culture” (Cauvin and Stordeur 1985:195).

27. See also Ghirshman 1938: pls. XXXI:2, 5, 7; XCII:1617–1619, 1621; XCIII:1620, 1622, 1625, 1627, 1632.

28. The tablets in question are Ghirshman 1938: pls. XXXI:3, 4, 6; XCII:1626; XCIII:1624.

29. Characteristic for this largely hypothetical sub-phase would be a group of tablets from the older excavations at Susa bearing typical Uruk sealings in conjunction with an isolated pictogram (Le Brun and Vallat 1978:31–32 n. 94). Published examples include: Amiet 1972: nos. 474 [square] and 604 [cushion-shaped]; Amiet 1979a: fig. 7 [cushion-shaped]; Dittmann 1986a: fig. 9:6 [cushion-shaped].

#### CHAPTER 4

1. It cannot yet be ascertained conclusively whether or not conditions in the Syro-Mesopotamian plains at the time of the Uruk intrusion differed markedly from modern ones. Available pollen cores are of little help, as they derive mostly from highland lakes and their distribution is uneven (van Zeist and Bottema 1982, with references). Similarly, deep sea sediment cores from the Persian Gulf principally reflect conditions in the river headwaters in Anatolia and Iran rather than conditions in the plains to the south and southwest. To be sure, there appears to be some evidence from the cores suggesting an increase in river run-off (and therefore in precipitation) in the Tigris-Euphrates-Karun drainage system between circa 5000 and 3500 B.C. (Nützel 1976, with references), but this evidence is based solely on scattered radiocarbon dates and cannot be correlated with any degree of precision with thus far available archaeological data.

2. A cautionary note, however, is sounded by Henry Wright (pers. comm., 1992) who plausibly suggests that if grain-storage facilities existed at Habuba-süd, more likely than not they would have been located along the river front, an area not adequately sampled by the excavators.

3. Although no Uruk ceramics were recovered at Qalinj Agha, the tripartite plan of the houses is paralleled at Uruk sites elsewhere (e.g., Ludwig 1979: fig. 2A–B) and the association of the houses with a nearby buttressed platform is also matched in Uruk contexts, more specifi-

cally in the West Area exposure at Chogha Mish (H. J. Kantor, pers. comm., 1988).

4. Specifically, compare Mallowan 1947: pls. XII:3, 4; XVII:12–13; XX:7–8.

5. As used here the term “Early Banesh” predates the consolidation of Tal-i Malyan into a major regional center and encompasses the Initial and Early Banesh phases of Alden’s (1979) periodization.

6. More precisely, in the Duzd-i-Gabri Pass in Bavanat district, near Mung (Stein 1936:209–10, map). The deposit is said to have contained at least fourteen intact vessels, but photos are only published for four out of that total (Stein 1936: pl. XIX:9, 12; XX:21–22). Two of the four are well known Uruk forms, a spouted jar (fig. 31D) and a ladle (fig. 31C).

7. The jars in question were attributed to Level III.6 in the original publication (Ghirshman 1938:47), but are now reassigned to III.7 in Amiet’s (1986:66) reconsideration of the stratigraphy and finds at Sialk.

8. It should be noted, however, that these beveled-rim bowl sherds appear to have been dismissed as intrusive by the excavators and are not mentioned in the final report (Lamberg-Karlovsky and Beale 1986).

9. For example: Tunca 1979: nos. 103; Amiet 1963: nos. 7–11; Buchanan 1966: nos. 1, 18, 703–6, 712–13, 716a, and 725; and Hogarth 1920: fig. 60. Uruk-style seals from the Marcopoli collection (Teissier 1984: nos. 1–13, 15–16, 53) are presumably largely of Syrian origin, but this is not demonstrable in all cases. Two seals from this group (Teissier 1984: nos. 2–3), however, have loop-bored perforations that betray a northern Syrian origin (Hogarth 1920:54; Braidwood and Braidwood 1960:488 n. 15).

10. Two of the four are from Judeidah JK 3, Levels 18–19, and appear *in situ* (Braidwood and Braidwood 1960:332, fig. 254:2–3), while the other two were found out of context in later levels (Braidwood and Braidwood 1960: figs. 297:5 and 381:7).

11. For example, at Tepe Gawra (e.g., Tobler 1950: pls. CLXV:104, CLXVI:107), Arpachiyah (Buchanan 1967: figs. 5, 6, 9, 13), and Arslan Tepe (Frangipane and Palmieri 1988: figs. 70:18, 74:50).

12. Fig. 37A (Anu Ziggurat, between Layers C and D, under the White Temple: compare Tobler 1950: pl. CLXV:109 (Gawra XII); Speiser 1935: pl. LVI:9, 12 (Gawra VIII); Frangipane and Palmieri 1988: fig. 74:50 (Arslan Tepe VIA); and Buchanan 1967: fig. 12 (Arpachiyah). Fig. 37B (below ramp of Anu Ziggurat, Level X [for location, see Heinrich 1937:28]): compare Frangipane and Palmieri 1988: fig. 74:41 (Arslan Tepe VIA). Fig. 37C (Anu Ziggurat, between Layers C and D under the White Temple): compare fig. 44H and Frangipane and Palmieri 1988: fig. 71:22 (Arslan Tepe VIA). Fig. 37D (Eanna XII): compare fig. 44G (Arslan Tepe VIA).

For other seals that are also of possible northern origin and from the White Temple/Anu Ziggurat area, but

of uncertain stratification, see Jakob-Rost 1975: nos. 15 and 27.

13. Much new information on the range of imported resources in Uruk sites in the Mesopotamian alluvium will undoubtedly emerge as the long-awaited publication of the final reports of the Warka excavations gets underway. For publication schedules and plans, see now Boehmer 1991.

14. These are not limited to the birds of prey and lion heads illustrated in figure 38. Other widely distributed types include, for instance, couchant bovids (compare Susa [Le Breton 1957: fig. 31:1–2; for clarification of context, see Amiet 1986:57 n. 3] and Warka, Sammel-fund hoard [Behm-Blancke 1979: pl. 2:11, 13]) and couchant animals with heads turned sideways (compare Susa [Amiet 1972: nos. 418, 423], Tello [de Genouillac 1934: pl. 36:6i], and Brak [Mallowan 1947: pl. XV:18, 22]).

15. In addition to examples illustrated in figure 38, compare pear-shaped jars with everted necks from Susa (Le Breton 1957: fig. 28:43; Le Brun 1978a: fig. 37:1, 3, 4), Tello (de Genouillac 1934: pls. 6:3a–c and 7:3) and Tell Qannas (Weiss 1985:112, no. 31) and theriomorphic vessels from Susa (Le Breton 1957: fig. 30:1) and Warka (Jordan 1932: pl. 18A).

16. Compare, for example, Alden 1979: fig. 58:1–3, and de Genouillac 1934: pl. X:4858, 5297 (Tello), and Heinrich 1937: pl. 60 (Warka).

## CHAPTER 5

1. Even though Late Chalcolithic and Uruk materials had been recovered together at Carchemish (Woolley 1952:214–26) significantly earlier than at Nineveh, delays in the publication of results meant that Nineveh and not Carchemish provided our first real suggestion that substantial contacts between the southern Mesopotamian alluvium and the Syro-Mesopotamian plains had taken place in the Uruk period.

2. However, Brak has yet to produce evidence of the chronological relationship between the indigenous Late Chalcolithic assemblage (Fielden 1981a) and the intrusive Uruk tradition (J. Oates 1985, 1986).

3. I am grateful to Messrs. M. R. Behm-Blancke, M. R. Hoh, and Alwo von Wickede, who, over a series of visits to Hassek Höyük, allowed me and other members of the Kurban Höyük excavation team to follow the progress of their excavations and see some of the pertinent material.

4. Exact proportions must await the final publication of data from the site, but it is clear from the preliminary reports that indigenous chaff-tempered ceramics are numerically the more significant component (Behm-Blancke et al. 1981:42–45).

5. Compare Behm-Blancke et al. 1981: pl. 12:3, 4; Behm-Blancke et al. 1984: pl. 12:1; and Behm-Blancke 1985:101, fig. 9.

6. Compare Behm-Blancke 1986:146, fig. 2 (Has-

sek); Mallowan 1947: pl. XXX:12 (Brak); and Jordan 1931:32, fig. 19 (Warka).

7. Ironically, a site such as Nineveh with its long sequence could have provided the key to understanding the development of the Late Chalcolithic period in the north, in particular the relationship between the indigenous assemblage of Ninevite III, paralleled at Gawra and elsewhere, and the Mesopotamian-derived evidence of Ninevite IV. Unfortunately, as even the excavator himself recognized, the critical deep sounding where the transition from one assemblage to the other was first detected was not dug with the necessary precision to allow the nature of the process to be elucidated (Campbell Thompson and Mallowan 1933:29).

8. An even earlier Late Chalcolithic assemblage can be identified at Kurban Höyük. A pit (Locus C01–203), unfortunately of somewhat uncertain stratification, was exposed in another excavation area at the site, Area C01. The ceramics inside the pit were exclusively chaff-tempered and appear to represent a coarser version of the assemblage typical for the lowest Late Chalcolithic phase in Area A: some of the same types are attested, but they were generally more crudely made and lacked any evidence of wheel manufacture such as may be detected in the Area A assemblage. This typologically earlier phase would predate the introduction of the fast wheel into the Atatürk Dam area and is distinguished by the complete absence of grit-tempered ceramics, although otherwise it is similar to the earliest Late Chalcolithic phase in Area A (Algaze et al. 1990: pls. 17–18, table 18).

9. Of a total of 2,159 sherds from the lowest Late Chalcolithic phase in Area A, Phase 6, only two represent Uruk types (a beveled-rim bowl rim and a conical cup sherd). In relative proportions these two sherds represent less than 1/10 of 1% of the total count (Algaze et al. 1990: table 11).

10. I thank Dr. Harvey Weiss for his kind permission to study some of the Leilan materials at New Haven in November 1983.

11. This view is also held by Maria Trentin of the Institute of Archaeology of the University of London. Her advice and insights are gratefully acknowledged.

12. Note, however, that the shallow platters with club or beveled-ledge rims (Mellaart 1981: figs. 164–67) that are common in excavated Late Chalcolithic contexts at numerous sites were incorrectly assigned by Mellaart in the Qoueiq area to the “EB III” period. Nevertheless, this does not significantly affect the estimates for the total number of Late Chalcolithic sites in the area, since most of the sites in which the misassigned platters were found were still assigned to the Late Chalcolithic period on the basis of other diagnostics.

13. The sites in question are Hailane, Mouslimiye, Fafine, Maled, Dabiq, Bahourte, Archaq, Kadrich, and Chair (for plans and measurements see, Matthers 1981: figs. 46, 50, 45, 49, 44, 41, 39, 48, and 43, respectively).

14. Late Chalcolithic levels were exposed at Tell Judeidah in the JK 3 sounding on the western edge of the mound (Braidwood and Braidwood 1960:5–11, fig. 4). Additionally, Late Chalcolithic pottery can also be recognized on the opposite (northeastern) side of the site, where recent soil cuts have been made by local villagers (personal observation, 1988).

15. For details, see above, chapter 3, notes 8–9.

16. The three sites are situated near Samsat: Biricik (U50:01) and Almalik (U50:13), on the same bank of the river but downstream, and Incirli (T51:42) some 4 kilometers upstream and on the opposite bank.

17. In addition to Samsat, Kurban Höyük, and Hassek Höyük, all of which are discussed at greater length elsewhere, the sites in question are Biricik, Almalik, Hayaz, Grik, Lidar, Incirli, Torçik Mevkii, Tille, and Toprakale. With the exception of Lidar Höyük, these sites are all relatively small (Özdoğan 1977:142, 184, 144, 94, 174, 176, 170, 92, and 158, respectively). Lidar is much larger than the preceding, about 15 hectares in maximum extent. However, the size of the mound in the Late Chalcolithic period is likely to have been smaller, since a series of vertical operations on the outer and middle slopes of the mound failed to reveal *in situ* materials of the period.

I am grateful to Dr. Harold Hauptmann who allowed me to follow the progress of the excavations at Lidar and see some of the pertinent material over a series of visits during 1981–84.

18. Compare Lloyd 1940: fig. 2 (Grai Resh); chap. 3 above, fig. 18A (Brak); and Ludwig 1979: fig. 3a-b (Habuba).

19. For a listing of sites with Late Chalcolithic materials in the survey area, see Meijer 1986:51. The six sites in the 6–12 hectare range noted are Sites 53, 94, 96, 146, 163, and 231 (Meijer 1986:48–49).

20. For the nature of patrimonial societies, see Doyle 1986:198–208. On the nature of chiefdoms in general, see Service 1962 and Flannery 1972. For a review of complex chiefdoms in the context of ancient Near Eastern data, see H. T. Wright 1984a.

## CHAPTER 6

1. Compare, for example, northern Mesopotamian Ubaid structures at Tepe Gawra, Level XIII (Tobler 1950: pl. 12) and southern Mesopotamian Uruk buildings at Warka (Heinrich 1982: fig. 74). For Uruk-period comparisons, see below, note 2.

2. More specifically, compare Uruk-period buildings in the Mesopotamian alluvium such as the White Temple at Warka (Heinrich 1982: fig. 90) and the Painted Temple at Tell Uqair (*ibid.*: fig. 105) and similar structures in Uruk enclaves on the Upper Euphrates, such as Habuba-süd/Qannas (*ibid.*: fig. 129) and Jebel Aruda (van Driel and van Driel-Murray 1983: map 1).

3. I wish to thank the Arslan Tepe excavation team for their hospitality when I and other members of the Ori-

ental Institute's Kurban Höyük expedition came to visit in Malatya during the 1983 season. I am particularly grateful to Drs. Palmieri, Frangipane, Ferioli, and Liverani for showing us at that time some of the pertinent materials from the site.

4. Compare, for example, Tobler 1950:182–192, pls. CLXV–CLXX (Gawra); Amiet 1973:217–224, figs. 2–4; and Frangipane and Palmieri 1988: figs. 69–78 (Arslan Tepe). For references to related glyptic in highland sites, see Buchanan 1967 and D. H. Caldwell 1976.

5. Frangipane and Palmieri 1988: figs. 67–68, 78:2; Frangipane and Palmieri 1988/89: fig. 8. Among the 1,600 or so sealings recovered as a single cache in Room A206, some 76 different stamp seals and 10 cylinder seals are said to be represented (Collon 1987:14).

6. However, plausible as this suggestion is in light of the unmistakable evidence from Arslan Tepe for close contacts with Uruk societies, it should still be noted that coherent exposures of Period VII levels directly underlying the Period VIA structures and elsewhere across the site are not yet sufficient to demonstrate conclusively that the role of the site as a regional redistributive center emerged only after the onset of contacts and not before.

7. If anything, the expansion northward of early Akkadian kings only accelerated preexisting processes in the northern periphery leading to the creation of ever larger political units, thus ensuring that later successors would encounter even greater resistance. The emergence late in the Akkadian period of the Hurrian kingdom of Urkish and Nawar, against which Mesopotamian rulers of the Ur III period were to launch repeated and largely unsuccessful campaigns (Halla 1978), appears to be a reflection of this process.

## CHAPTER 7

1. According to one version of the Old Babylonian Itinerary, it took eighty-seven days to travel from Larsa to Emar (in the lower corner of the Euphrates bend in Syria some 15 kilometers south of the Habuba/Qannas enclave) via the overland route alongside the Tigris. This includes, however, a lengthy delay at three alluvial cities along the way, which took almost one month. Thus, it is possible that a direct trip with no layovers would have taken something on the order of two months. It is difficult to estimate the length of time required to reach some of the other enclaves, such as Nineveh, for example, since the route northward given in the itinerary followed the Tigris only up to Assur and then veered northwestward across the Lower Jezira in the direction of Shubat Enlil (Tell Leilan). However, it took fifty-six days to reach Zalipa, a station along the way, somewhere north of Ashur and south of Nineveh on the Tigris. By inference, then, after deducting the month lost in layovers, the trip to Nineveh would have taken about a month (Halla 1964).

We have no records of the length of time that would have been required if the more direct route to Emar alongside the Euphrates (which was shorter by about a

third in terms of total distance) had been used. However, it is clear that even for that route time must still be reckoned in terms of more than one month. If, as has been argued, from Larsa to Nineveh with no layovers (a distance by air of some 700 kilometers) would have taken about a month, then from Larsa to Emar would have taken at least forty days (a distance of some 1,000 kilometers by air).

2. Bulk commodities such as timber from Anatolia, northern Syria, and northern Iraq could be floated with relative ease down the Tigris and Euphrates rivers using simple rafts or boats. However, movement northward from the southern Mesopotamian core was still tied to slow-moving donkey caravans (see above, note 1 and below note 9), as was movement eastward across the Iranian plateau.

3. Compare, for example, sealings from Susa (Amiet 1972: nos. 682–683, 688–689, 691, 695) and Warka (Brandes 1979: pls. 1–13).

4. For an intriguing attempt to reconstruct fairly precise administrative divisions and hierarchies in the later part of the Uruk period using glyptic data from Khuzestan, see Dittmann 1986a. For a summary of pertinent epigraphic evidence from the Warka Archaic Texts (Eanna IV/III), see Nissen 1976 and 1986a.

5. Although rare in Ubaid-period sites thus far excavated in the alluvium, copper appears to be common in contemporary levels in the Susiana plain, where numerous copper implements were recovered in the Late Susiana Necropolis at Susa (de Morgan 1912). For a review of copper and copper utensils in prehistoric contexts in Mesopotamia, see Moorey 1985. Also rare but attested in Ubaid contexts are other precious metals such as gold. Gold wire was recovered in a Late Ubaid level (Pit F, 3.25 m) at Ur (Woolley 1955a:14, 185:U16981). Stone vessels made from semi-exotic imported stones are more common in Ubaid sites. At Eridu and Ur, for instance, they were frequently recovered in association with burials (Safar, Lloyd, and Mustafa 1981:232–33, figs. 112–13; Woolley 1955a:87), while at Tell Abada they are found in houses. Also found in Ubaid-period levels at Abada are precious stones such as carnelian, which were found in some burials (Jasim 1985:202). Bitumen and mineral ore-based paints are documented in Ubaid levels at Tell el 'Oueili (Hout 1989). Finally, for the distribution of obsidian in early sites in the alluvium, see G. A. Wright 1969.

6. A significant Ubaid occupation appears to have existed at both Tell Brak (J. Oates 1986:253) and Samsat (Özdoğan 1977:133, pls. 84–85). However, Ubaid levels have not yet been excavated at Brak, and Samsat has now been submerged by the reservoir of the Atatürk Dam.

7. Compare, for example, Jasim and Oates 1986: 356, fig. 3, bottom (Tell Abada), and Tobler 1950: pl. CLVII:71 (Gawra).

8. It should be noted, however, that the pattern of relatively substantial Ubaid centers largely without associated rural settlements documented by Adams for the Uruk and Nippur survey areas does not hold in the southernmost edge of the alluvium, in the environs of Ur and Eridu surveyed by H. T. Wright (1981b). There, a greater range of site sizes was discerned, with clusters of smaller dependent sites in the immediate surroundings of the major centers. It is unclear whether the relative paucity of smaller Ubaid sites outside the Ur/Eridu region represents an actual archaeological pattern or is the result of differential recovery caused by later alluviation obscuring the majority of small sites over significant portions of the surveyed area further north. The case of Ras el Amiya, a small Ubaid site near Kish accidentally found under the modern alluvial surface while an irrigation trench was being dug, indicates how much we may be missing.

9. While incontrovertible osteological evidence for domestic asses and half asses is not yet recorded in Mesopotamia and its immediate periphery before the first quarter of the third millennium B.C. (Clutton-Brock 1986:210–13; Zeder 1986:407), actual remains of asses have been identified in mid fourth millennium levels at Maadi, in Egypt just south of the Nile Delta region (Bökönyi 1985). Further confirmation is provided by pictorial and representational evidence from Egypt and Palestine. Clearly recognizable asses are depicted in the so-called Libyan Booty Palette found at Abydos (Kantor 1974:237, pl. 214b), which is assigned on stylistic grounds to the late fourth millennium or Late Gerzean period (Dynasty 0) (H. J. Kantor, pers. comm., 1988). Earlier by a few centuries is a clay figurine brought to my attention by Roger Moorey (pers. comm., 1988). The figurine is clearly recognizable as a donkey carrying two baskets and was found in a Ghassulian-period burial in a cave at Giv'atayim, near Tel Aviv (Kaplan 1969:31, 39, pl. VII).

10. But for useful surveys as to the range of possibilities we should be looking for in available archaeological data, see Cohen 1971, Curtin 1984, and Polanyi 1975.

11. For a cogent discussion of possible modes of exchange and concomitant archaeologically identifiable spatial correlates, see Renfrew 1975. Note, however, recent criticism to the effect that Renfrew's model fails to consider factors other than the institutional form of the trade that would possibly account or at least affect the observed fall-off curves. These factors are (1) the effect of increasing distance and cost on decreasing demand, and (2) the possibility that improvements in transportation technologies increase costs and thereby increase demand (Earle 1985).

# Sources for Illustrations

FIG. 1. Algaze 1989b: fig. 4. redrawn after Carter and Stolper 1984: fig. 4.

FIG. 2. Redrawn after Johnson 1987: fig. 23.

FIG. 3. Algaze 1989b: fig. 1. Redrawn after (A) Le Breton 1957: fig. 13a; (B) Le Brun 1978a: fig. 30:14; (C) Steve and Gasche 1971: pl. 32:14; (D) Le Brun 1978a: fig. 24:4; (E) Sürenhagen 1986b:69, no. 39; (F) de Genouillac 1934: pl. IV:5434; (G) Sürenhagen 1986b:32, no. 100; (H) von Haller 1932: pl. 19D:b; (I) Amiet 1972: no. 474; (J) Amiet 1972: no. 475; (K) Schott 1933: pl. 26B; (L) Schott 1933: pl. 26C; (M) Amiet 1972: no. 695; (N) Amiet 1980: no. 330; (O) Le Brun and Vallat 1978: fig. 7:8; (P) Amiet 1980: no. 611; (Q) Amiet 1980: no. 337; (R) Lenzen 1961: pl. 25N; (S) Le Brun 1978b: fig. 8:6; (T) Vallat 1986: fig. 1; (U) Amiet 1986: figs. 24:2, 8, and 25:4; (V) Lenzen 1964: pl. 26G; (W) Lenzen 1960: pl. 31E; (X) Lenzen 1965: pl. 19c; (Y) Amiet 1972: no. 695; (Z) Le Brun and Vallat 1978: fig. 7:7; (AA) Heinrich 1982: fig. 94; (BB) Schott 1933: pl. 22A.

FIG. 5. Redrawn after Strommenger 1980a: fig. 12, and back cover, and Sürenhagen 1974/75: map 2.

FIG. 6. Redrawn after van Driel and van Driel-Murray 1983: map 1.

FIG. 7. Redrawn after van Loon 1967: fig. 1.

FIG. 10. Redrawn after (A) Woolley 1952: fig. 94:7; (B) Woolley 1952: fig. 94:13; (C) Woolley 1952: fig. 94:15; (D) Woolley 1952: fig. 89; (E) Woolley 1952: fig. 94:16; (F) Woolley 1952: fig. 95.

FIG. 14. Photo by and courtesy of Dr. Gil Stein.

FIG. 15. Redrawn after Özdoğan 1977: pl. 12.

FIG. 16. Algaze 1986b: fig. 1.

FIG. 17. Redrawn after (A) Stucky et al. 1974: fig. 7; (B) Sürenhagen 1974/75: pl. 18:124; (C) Sürenhagen 1974/75: pl. 16:92; (D) Sürenhagen 1974/75: pl. 17:102; (E) Sürenhagen 1974/75: pl. 7:64; (F) Hansen 1965: fig. 4; (G) Hansen 1965: fig. 11a; (H) Hansen 1965: fig. 26; (I) LeBrun 1978a: fig. 30:12; (J) LeBreton 1957: fig. 12:9; (K) Strommenger 1980a: fig. 56; (L) Strommenger 1980a: fig. 59; (M) Le Brun 1978b: fig. 9:4; (N) Amiet 1986: fig. 24:8, 14, and Schmandt-Besserat 1977: fig. 9; (O-R) van Driel 1983: figs. 23, 6, 5, and 24; (S-V) Amiet 1972: nos. 712, 525, 511, and 633; (W) Finet 1979: fig. 15; (X) van Driel 1983: fig. 36; (Y) Heinrich 1982: fig. 90; (Z) Le Brun and Vallat 1978: fig. 7:7.

FIG. 18. Redrawn after (A) Weiss 1985: fig. 13; (B) J. Oates 1986: fig. 3:40; (C) J. Oates 1986: fig. 3:49; (D) J. Oates 1986: fig. 3:48; (E) Mallowan 1947: pl. XXI:2; (F) Amiet 1980: pl. 21E; (G) Mallowan 1947: pl. LI:34; (H) Mallowan 1947: pl. V:1; (I) Finkel 1985: fig. 1; (J) Jasim and Oates 1986: fig. 4.

FIG. 19. Redrawn after (A-H) Campbell Thompson and Hamilton 1932: pl. LXI:27, 26, 23, 21, 15, 20, 1, and 16; (I) Collon and Reade 1983: fig. 1a; (J) Collon and Reade 1983: fig. 2a, and Campbell Thompson and Hutchinson 1931: pl. XXII:10; (K) Collon and Reade 1983: fig. 1b; (L) Collon 1987: no. 32; (M) Wiseman 1962: pl. 2B.

FIG. 21. Algaze 1989b: fig. 2.

FIG. 23. Redrawn after (A) Sürenhagen 1974/75: map 4; (B) Behm-Blancke 1989: fig. 1;

FIG. 25. Redrawn after Weiss and Young 1975:4.

FIG. 26. Redrawn after (A) Weiss and Young 1975: fig. 3:3; (B) Weiss and Young 1975: fig. 3:5; (C)

- Young 1969: fig. 9:2; (D) Weiss and Young 1975: fig. 3:1b; (E) Weiss and Young 1975: fig. 3:1a; (F) Weiss and Young 1975: fig. 5:5; (G) Weiss and Young 1975: fig. 5:7; (H) Weiss and Young 1975: fig. 4:4; (I) Weiss and Young 1975: fig. 4:2.
- FIG. 27. Redrawn after (A) Amiet 1985: fig. 2:S.49; (B) Ghirshman 1938: pl. LXXXIX; S.43d; (C) Ghirshman 1938: pl. LXIX:S.135; (D) Ghirshman 1938: pl. LXXXVIII:S.115; (E) Ghirshman 1938: pl. LXXXVIII:S.41; (F) Amiet 1985: fig. 4; (G) Ghirshman 1938: pl. LXXXIX:S.80; (H) Ghirshman 1938: pl. LXXXIX:S.2; (I) Ghirshman 1938: pl. XCIV:S.1609; (J) Amiet 1985: fig. 2:S.42; (K) Amiet 1985: fig. 2:S.89; (L) Amiet 1985: fig. 3; (M) Ghirshman 1938: pl. XCIII:S.1627; (N) Ghirshman 1938: pl. XCII:S.1630.
- FIG. 28. Redrawn after Hijara 1973: pl. 1.
- FIG. 29. Redrawn after (A) Starr 1939: pl. 40C; (B) Starr 1939: pl. 40U; (C) Starr 1939: pl. 41F; (D) Starr 1939: pl. 41D; (E) Hijara 1976: pl. 11, top; (F) Hijara 1976: pl. 11, top; (G) Starr 1939: pl. 51L; (H) Hijara 1976: pl. 18, top right; (I) Starr 1939: pl. 41K; (J) Starr 1939: pl. 41L; (K) Abu al-Soof 1964: pl. II:IM 60399; (L) Abu al-Soof 1964: pl. III, center; (M) Abu al-Soof 1964: pl. II:IM 60412; (N) Hijara 1976: pl. 6:2.
- FIG. 30. Algaze 1989b: fig. 3. Redrawn after Levine 1974a: fig. 1.
- FIG. 31. Redrawn after (A) Alden 1979: fig. 35:18; (B) Alden 1979: fig. 57:21; (C) Stein 1936: pl. XX:22; (D) Stein 1936: pl. XX:21; (E) Alden 1979: fig. 48:3; (F) Alden 1979: fig. 50:4; (G) Alden 1979: fig. 47:2; (H) Alden 1979: fig. 47:22; (I) Alden 1979: fig. 50:10; (J) Alden 1979: fig. 49:6.
- FIG. 33. Redrawn after (A) Palmieri 1973: fig. 68:17; (B) Palmieri 1973: fig. 68:18; (C) Palmieri 1981: fig. 2:6; (D) Frangipane and Palmieri 1987: fig. 5:8; (E) Frangipane and Palmieri 1987: fig. 5:6; (F) Palmieri 1973: fig. 64:3; (G) Palmieri 1981: fig. 2:5.
- FIG. 34. Redrawn after (A) Esin 1982: pl. 1:20; (B) Esin 1982: pl. 3a:3; (C) Esin 1982: pl. 3a:4; (D) Esin 1982: pl. 3a:4; (E) Esin 1982: pl. 3a:4; (F) Esin 1982: pl. 3b:7; (G) Esin 1982: pl. 3b:7; (H) Esin 1982: pl. 3b:6.
- FIG. 35. Algaze 1989b: fig. 5. Redrawn after Berthoud et al. 1982:41, and J. R. Caldwell 1967:12.
- FIG. 36. Redrawn after (A) Braidwood and Braidwood 1960: fig. 175:1; (B) Braidwood and Braidwood 1960: fig. 213:2; (C) Braidwood and Braidwood 1960: fig. 219:3; (D) Amiet 1963: no. 11 (presumably from Ras Shamra/Ugarit); (E) Amiet 1980: no. 340 (presumably from northern Syria); (F) Amiet 1980: no. 314 (from Çatal Höyük).
- FIG. 37. (A) Heinrich 1937: pl. 50A; (B) Heinrich 1937: pl. 50D; (C) Heinrich 1938: pl. 29D; (D) Jordan 1932: pl. 19A.
- FIG. 38. Redrawn after (A) Le Brun 1978a: fig. 39:1; (B) de Genouillac 1934: pl. 8; (C) Strommenger 1980a: fig. 47; (D) Le Breton 1957: fig. 18:7; (E) Tell Agrab, Registration no. 35:809, Locus L14:1: Shara Temple, Early Dynastic 2; (F) Mallowan 1947: pl. XIII:8; (G) Amiet 1972: no. 430 bis; (H) de Genouillac 1934: pl. 36:4; (I) Mallowan 1947: pl. XLVII:7; (J) Le Breton 1957:110, fig. 28:27; (K) Sürenhagen 1986a:21, fig. 18; (L) Le Brun 1978a: fig. 37:5; (M) de Genouillac 1934: pl. IX:4880.
- FIG. 39. Redrawn after (A) Behm-Blancke et al. 1984: fig. 11:2; (B) Behm-Blancke et al. 1981: fig. 8:9; (C) Behm-Blancke et al. 1984: fig. 14:5; (D) Behm-Blancke et al. 1981: fig. 23:1; (E) Behm-Blancke et al. 1981: fig. 23:2; (F) Behm-Blancke et al. 1984: fig. 12:4; (G) Behm-Blancke et al. 1981: fig. 24:13; (H) Behm-Blancke et al. 1984: fig. 14:4; (I) Behm-Blancke et al. 1984: fig. 14:8.
- FIG. 40. Algaze 1989b: fig. 6.
- FIG. 42. Algaze et al. 1990: fig. 139.
- FIG. 43. Redrawn after van Loon et al. 1988: pl. 27.
- FIG. 44. Redrawn after (A) Collon 1987: no. 10; (B) Frangipane and Palmieri 1988: fig. 78:2; (C) Collon 1987: no. 11; (D) Frangipane and Palmieri 1988: fig. 67:10; (E) Amiet 1973: fig. 4:4; (F) Amiet 1973: fig. 4:1; (G) Amiet 1973: fig. 4:4; (H) Frangipane and Palmieri 1988: fig. 72:27.
- FIG. 45. Redrawn after Palmieri 1985: fig. 4.

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